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A trade publication devoted to the interests of the manufacturers of major home appliances and allied metal products. Covers plant facilities and manufacturing problems from raw metal to finished product, with appecial emphasis on metal finishing. Free controlled circulation to management, purchasing, engineering and key plant personnel in companies intimately connected with the field covered. To others, subscription price (U.S. funds) \$5.00 per year. Editor and publisher, Dana Chase. Associate editors, Paor. A. I. Ardrews, Paor. R. M. Kinc, and Mart E. Heurerz.

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Page
PRE-SPUN SHAPES FACILITATE DROP HAMMER FORMINGBy Gilbert C. Close 19
PROGRESS REPORT ON SAFE TRANSIT PROGRAM 22
VENTILATING AIR FOR PAINT ROOM IS CLEANED ELECTRONICALLY
FINISH CHARACTERISTICS THAT WILL SELL METAL PRODUCTSBy D. H. Malcom 29
SPECIAL SECTION — AMERICAN HOME LAUNDRY MANU- FACTURERS' ASSOCIATION
Features
THE FINISH LINE — An Editorial
Industrial News
PRESSED METAL INSTITUTE HOLDS FIRST ANNUAL MEETING IN CLEVELAND 57 INDUSTRIAL NEWS AND PERSONALS
Miscellaneous
ADVERTISERS' INDEX

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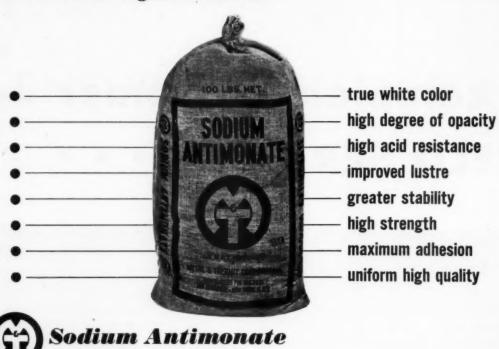
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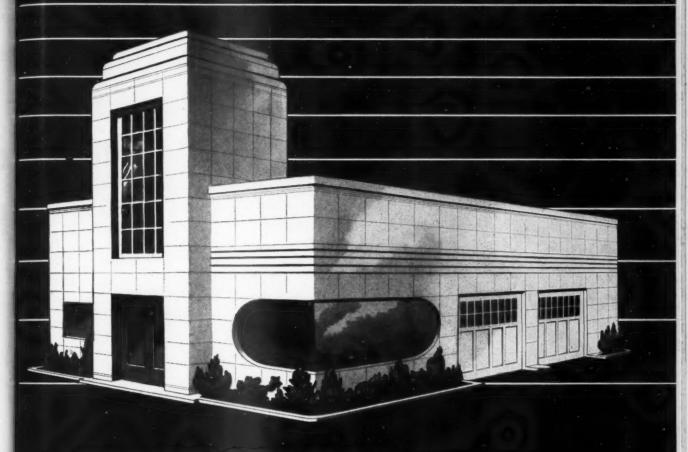
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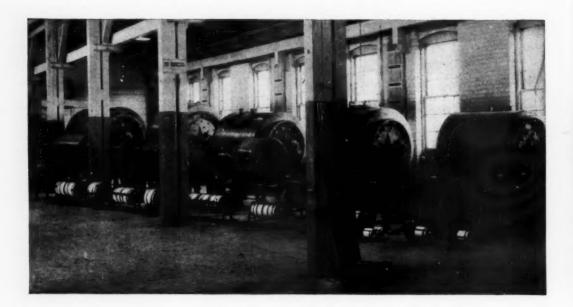
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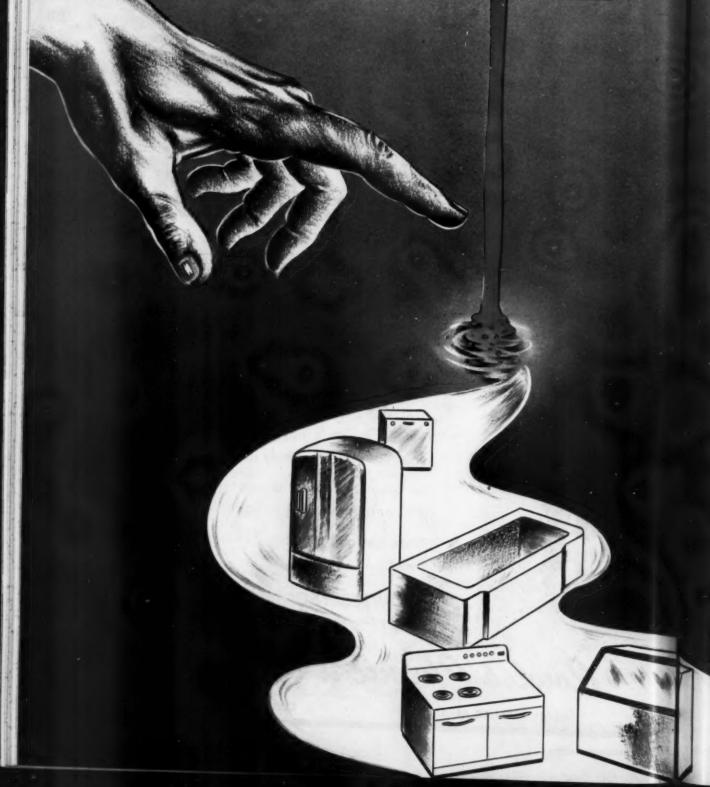
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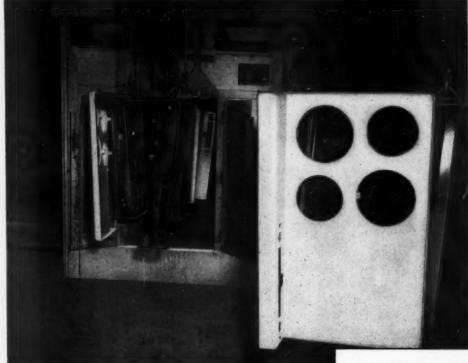


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From the lips of Pemco's wholly continuous smelters flow millions of pounds of frit perfectly smelted at a temperature tolerance of approximately twenty degrees. It is this "governing influence" that gives meaning to the Pemco trade mark "The World's Finest Frit." For it is only by CONTROL of this character—in the lab—in mixing—in weighing—in smelting that frit of Pemco's UNIFORM QUALITY is assured. Yes, CONTROL is more than a word at Pemco. It is a guide post to a better finish—to more urgent sales appeal-to greater consumer satisfaction. In this market -becoming more highly competitive every day-it is well to give heed to the advice "Always begin with a good finish." We'll gladly prove to your satisfaction that a Finish of Pemco electronically controlled, continuously smelted, frit will give your product the Genuine Lifetime Porcelain Enamel Finish it needs to beat competition. Yes, a test run in your own plant is yours for the asking. Write, wire or phone today.

PEMCO CORPORATION Baltimore 24. Maryland

Always Begin With a Good Finish



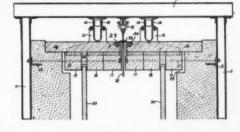
Photograph shows a Boland continuous furnace in the plant of Rutenber Electric Co., Marion, Ind., producers of Marion electric ranges.

This drawing shows the patented "Floating Roof" construction which is standard with all Boland built continuous furnaces.



More ware per hour with BOLAND

"Single Flow" Furnaces



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What's more, you will get better quality ware consistently — ware that is fired evenly from top to bottom, and both front and back. Boland furnaces provide a combination of pre-heat and firing zones designed for the most uniform firing of all types of porcelain enameled products.

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TITANOX-TG

Photomicrograph of TITANOX for

makes quality frits FASTER

Frits made with TITANOX-TG — a new non-pigmentary grade of specially processed titanium dioxide — assure you of all the advantages of the best titania enamels. Equally important, these desirable characteristics of TITANOX-TG will hasten production and cut the costs of making fine vitreous enamels:

NEW PARTICLE SIZE

- Flows easily in the dry state.
- · Will not stick or ball up.
- Discharges readily from bins and hoppers. No hard packing.
- · Will not sludge out in the smelter.
- Eliminates pre-mixing and bammer milling in dry blending in many cases.
- Reduces warehouse space and charges because of greater bulk density.

NEW MAXIMUM TITANIUM DIOXIDE CONTENT

Assures constantly and uniformly, the outstanding qualities of titanium enamels:

- · High acid resistance and high opacity in the same enamel.
- High opacity and reflectance at low application weight of enamel.
- High reflectance and whiteness easily modified if necessary.
- Adaptability for refiring that makes spot repairing simple and invisible.
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New TITANOX-TG will assure high quality in your frits, speed production and cut costs. Write today to our Technical Service Department for further information. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; 104 South Michigan Avenue, Chicago 3, Ill.; 2600 South Eastern Avenue, Los Angeles 22, Calif. Branches in all other principal cities.

NEW PARTICLE SIZE
HAS 6 ADVANTAGES

Photomicrograph of TITANOX-TG for

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Subsidiary of NATIONAL LEAD COMPANY



Dry Acid Salt Compounds

SAFE — Eliminate acid carboys — acid storage — acid mixing — and acid burn Merely heat the water - add TROXIDE - and pickle the ware!

NON-FUMING — No fumes — no acid spray! Creates better and healthier working conditions - minimizes corrosion of auxiliary equipment.

NON-SCUMMING — Absence of sulfur fumes from pickle room eliminates a definit cause of scamming in the burning atmosphere and on finished ware.

FREE-RINSING — Leaves no objectionable films — may be used with or without nicke immersion dips — easier to neutralize than conventional acids.

> VERSATILE - Easily controllable by temperature and concentration - produces any desired etch on conventional enameling irons - cold rolled steel - or the new alloyed enameling irons.

ECONOMIC - Resists buildup of dissolved iron - Outlasts sulfuric acid by wide margins - demands less maintenance of solution and equipment.

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HAVE YOU OPENED YOUR EYES to one of the most fruitful opportunities for the manufacturer of an appliance or similar metal product to save money, reduce unnecessary losses and promote satisfaction among distributors and dealers? Is "packaging" something that you have come to consider a "necessary nuisance" or is it receiving the attention in your organization that it deserves — considering the fact that no finished product can be truly considered "sold" until it reaches the ultimate user safely? Are you still using packaging methods that have been in use for years, irrespective of the advancement in packaging and shipping techniques? Have you, Mr. Manager or plant man, made arrangements for your company to take advantage of PRE-TESTING to minimize your packing costs and to insure safe delivery of your valuable finished product?

Unless you have surveyed this problem recently, your answers to these questions are not likely to be the right ones. Possibly you are one who says "We have very little trouble with our products as a result of handling and shipping losses." If that is your statement and you haven't made a recent thorough check, we suggest you do so now. True, you may not have been receiving an abnormal number of complaints from sales outlets but take a look at your replacement shipments and parts shipments before you decide to be satisfied. For every replacement part you have shipped you can figure a loss to someone in dollars and cents and you can figure a little additional loss of goodwill and satisfaction on the part of your customer.

It's all so unnecessary

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Now, if there were nothing that could be done about the problem there might be some excuse for closing your eyes. The fact is, however, that you have a workable formula for eliminating most of your shipping losses at the other end of your telephone wire or mail delivery—a formula that will be handed to you without charge by a cooperative committee that has been established to help you, and every manufacturer of a finished metal product, reduce packaging and shipping losses to an absolute minimum.

If you haven't received complete information on the National Safe Transit Committee's pre-testing plan for reducing packing and shipping losses, then contact your national association (all major appliance associations have a representative on the Committee) or write direct to the National Safe Transit Committee, 1010 Vermont Ave., N.W., Washington 5, D. C. Ask for information on Project I (for packaged products over 100 pounds) and Project I-A (for packaged products under 100 pounds) and you will receive complete information on a plan for Pre-testing your finished packaged products — a plan that will tell you in advance whether you may

expect your product to arrive at its destination safely.

Why learn the hard way?

Certainly, you can do as many manufacturers have done for years. You can carefully design your product, build it with the best available materials, place it in a well designed, well constructed shipping container and turn it loose for shipment by the thousands. Then, after thousands have been shipped you may find out "the hard way" whether you have a shippable PACKAGED PRODUCT under all normal handling and in-transit conditions. — That is the old way and it has proved to be a very costly way for many companies that have found some "bug" in their product or package only after getting damage reports from the field on hundreds or even thousands of units.

The new way to determine "shippability" of a finished PACKAGED PRODUCT is to apply the National Safe Transit Committee's formula for PRE-TESTING your completely packaged product before a production quantity has been released for shipment. This program is not an experiment. It results from fifteen years of practical plant operating experience. The proof of the "pudding" is the fact that every manufacturer who has adopted the plan has reported immediate results in reducing shipping losses. Another point — more often than not companies employing the system have found that definite savings can be realized, either in product cost or cost of the shipping container. Results show that as many companies overpack their products in an attempt to insure safe delivery as those who provide inadequate packing.

It's entirely up to you

The National Safe Transit Program is purely a voluntary one. The members of the coordinating committee who have worked so diligently to provide a practical workable plan for you have given their service on a purely cooperative basis without remuneration. The companies for whom they work have paid the bills in the interest of furthering a constructive movement in which everyone gains and no one can lose.

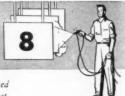
Now, it is entirely up to you as a manufacturer as to whether or not you take advantage of the opportunity afforded to help your own company reduce costs and deliver your products safely to the ultimate consumer. Our suggestion is that you act at once, if you have not already done so, to join the increasing number of product manufacturers using the pre-testing program.

Dana Chase

EDITOR AND PUBLISHER



Enameler's Data Sheet No.



An informative series on titanium-bearing killed steel for the enameling industry. Issued monthly by Inland Steel Company. Reprints of all data sheets are available upon request.

RECOMMENDED PROCEDURES FOR CLEANING, NICKELING, AND ENAMELING TITANIUM STEEL

While care should be consistently exercised in the cleaning process for titanium enameling steel, the regular procedures followed in quality enameling shops can be readily applied to this new base metal. Controls should be set up and followed to consistently enamel this superior base metal with a single thin white cover coat.

The parts to be enameled must be clean and free from oil, grease, and



To enamel titanium steel with a single thin white cover coat, carefully controlled cleaning and pick-ling is important.

other organic substances. Surfaces must be freed from scale and rust, but the pickling operation should be limited only to the time required for obtaining a clean scale-free surface.

Rinsing and Nickeling Operations

Rinsing after cleaning and pickling operations must be thorough. At least two rinse tanks should be used after alkaline cleaning. The first should be hot and have a moderate overflow; the second can be cold, but should have a vigorous overflow.

To promote satisfactory enamel bond, a sufficient thickness of nickel must be applied by "nickel striking." This amount usually ranges between 0.08 and 0.10 grams per square foot of surface. However, this must be determined from shop trials, and controls should be instituted to assure correct immersion time, concentration and temperature of the bath, and agitation of the parts or bath, all of which affect the thickness of deposit. The nickeling process is a simple immersion process, and electric current

Although there is more than one satisfactory set of cleaning, pickling, and nickeling operations, the following proc-ess is one that has been used successfully in several shops employing a batchtype process, that is, nonautomatic.

Recommended Sequence

- 1. Cleaning: Immersion time-20 to 30 minutes. Solution strength-8 oz of cleaner per gallon of water. Temperature-boiling.
- 2. Cleaner rinse: Immersion time-5 minutes. Temperature-warm.
- 3. Acid Pickle: Immersion time-10 minutes. Solution strength 6% to 7% sulphuric acid by weight. Temperature-140F to 160F.
- 4. Acid Rinse: Immersion time-5 minutes. Rinse solution-water plus sulphuric acid-pH 3.0 to 4.0. Temperature-cold.
- 5. Nickel Dip: Immersion time-10 minutes. Solution strength-1 to 11/2 oz single nickel sulphate per gallon of water. Temperature—160F to 170 F. pH 3.0 to 4.0. (Adjust pH by addition of sulphuric acid or sodium

hydroxide. Do not use ammonium salts.)

6. Nickel Dip Rinse: None recommended. (If rinse is necessary, use cold water plus sulphuric acid-pH 3.0 to

th

7. Neutralizer: Immersion time-4 minutes. Solution strength - 0.2 oz sodium cyanide per gallon of water-0.35 oz caustic soda per gallon of water. Temperature—120F to 130F.

Application of the enamel to titanium steel does not necessarily require any change from standard shop practice. However, automatic spraying, giving a more uniform coating, is highly desir-

Shorter Firing Time Required

Cover coat enamels mature in less time than standard ground coats and, therefore, require less burning timewith either continuous or box-type furnaces. Some enamels, particularly the antimony bearing type, produce an excellent bond when fired from two to three minutes at about 1500F in a boxtype furnace. Zirconium and titanium enamels require, in general, a firing cycle of three to four minutes at from 1520F to 1550F in a box-type furnace. One-coat, one-fire titanium enameled panels have been produced with a fired thickness of .004 to .006 in.

Future Enameler's Data Sheets will further discuss the properties of Inland TI-NAMEL titanium enameling steel. Write if you would like additional information.

Inland Steel Company, 38 S. Dearborn St., Chicago 3, III.

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TI-NAM

TITANIUM-BEARING KILLED STEEL ENAMELING SHEETS

Pre-spun shapes facilitate

drop hammer forming

a report on an engineer's research and plant experience in short-cutting fabrication procedure by spinning flat metal sheets into neutral shapes

By Gilbert C. Close . FINISH CORRESPONDENT



The status of drop hammer metal forming as a self-sufficient industrial process was rudely shattered about 18 months ago

when Homer W. Snook, engineer at the El Segundo, California, plant of Douglas Aircraft Company, decided to do something about the number of staging dies required to produce certain critically formed parts. The results of Snook's research work along this line will be of interest to every drop hammer production engineer in industry.

Staging dies have always been a major cost item in drop hammer production work. Only the simplest of parts can be formed in a single blow. Most parts, and especially those requiring a high degree of forming, demand multiple sets of staging dies, each set designed to progressively break down the metal by slow degrees until the desired shape is obtained.

The problem of die amortization

In mass production industries, such as the auto industry where dies can be used until worn out, the total die cost per part in relatively small. But in other industries and in many jobbing concerns, where only a few hundred similar parts are required to fill a production order, the amortiza-

tion cost per part of multiple staging dies is often a staggering burden.

High unit amortization cost of staging dies has always been a problem in the aircraft industry where most contracts will call for from 10 to 100 airplanes. It was this factor that inspired Snook to investigate the possibilities of spinning flat metal sheets into neutral shapes prior to drop hammer forming.

It was Snook's theory that the metal sheet could be given a neutral shape approaching that of the finished part during this pre-spinning operation. Thus several sets of staging dies used for initial stages of metal breakdown could be eliminated. The engineer further contended that during spin-



Pre-spinning a shape prior to drop hammer forming. Pressure of spinning tool against the blank forces the metal over and onto the form block (invisible here) chucked opposite the blank.



ning, metal thickness could be controlled so that a large proportion of "thinning" caused by localized metal draw during subsequent hammer work would be offset.

A successful production process

Today—18 months later—Snook's once empirical theory has become an established production process. Dozens of hammer-formed parts used on the AD series airplanes being produced at the Douglas El Segundo plant are transition stampings from neutral shapes spun prior to hammer forming. In production work and experimentally, the process has proved its value with various of the aluminum alloys, low carbon steel, stainless steel, magnesium, terneplate and brass.

A word of explanation may aid those not familiar with metal spinning in visualizing how this process works. A flat sheet of metal is chucked in a spinning lathe along with a form block approximating the desired shape of the finished part.

Right: A drop hammer die used for transition-stamping of a pre-spun shape. The neutral shape used and the part produced by this die are shown in photo on the opposite page. As the metal sheet rotates, a spinning tool is pressed against it opposite the form block. Pressure of the spinning tool causes the metal to flow over and assume the shape of the form block.

During spinning, thickness of the metal on the periphery of the part can Left: These body steel (1025 carbon steel) parts, called apply drill and trim templates, were pre-spun, then hammer formed, using the same form block and hammer dies used in the forming of production parts. The production parts nest inside these templates to be marked for drilling and trimming.

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be controlled within limits by manipulation of the spinning tool. It is thus possible to obtain somewhat thicker sections in those portions of the neutral shape that will be subjected to localized draw during subsequent hammer work. The term "neutral shape" is used because the part produced by spinning is uniformly round, and metal thickness on a plane perpendicular to the spinning axis is the same.

There are no set formulae for the shape of the pre-spun part, but increasing experience is narrowing the range of trial-and-error experimentation which was necessary when the process was first instigated. The drop hammer production man and the metal spinner work together in developing the right shaped form block for each new shape to be produced. Two or three trial parts are spun



and hammer-formed. This is usually enough to illustrate the best neutral shape to use and proper metal distribution to offset thinning during subsequent transition stamping.

Die requirements reduced from 9 to 3

Prior to use of the pre-spinning process, a small microswitch box produced at the Douglas El Segundo plant required the use of nine sets of staging dies. Despite these nine progressive metal breakdowns, many boxes had to be rejected because of excessive local thinning or actual metal rupture. Now, by pre-spinning the metal into a neutral cup-shape prior to hammer forming, only three sets of staging dies are required. Furthermore, by controlling metal thickness in the neutral shape, excessive thinning is eliminated and rejected parts are few and far between.

The spinning department used for this type of work need not be elaborate or costly. At Douglas, a spinning lathe with a 22-inch closed bed and 44-inch open bed is used for spinning the larger shapes. This lathe was modified after its purchase by equipping it with a three-speed transmission which, in conjunction with a variable drive, gives an infinite variety of speeds between 40 and 1800 rpm. Two ordinary shop lathes are used for spinning smaller parts. Conventional wood, steel and alloy spinning tools are used.

Form blocks are fabricated right in the plant. Block material may be maple, birch, masonite, aluminum, or steel, depending upon the severity of the spinning operation and the number of parts to be produced. Laminated masonite has proved to be an excellent material when the spinning operation is severe; the long-wearing qualities of steel are advantageous when a large number of parts will be produced. Wood is an easy material with which to work, and is often used in developing experimental shapes.

Multiple spinnings

may be employed

In some cases, where spinning may be carried out to the extremes of straight-walled work, two or three



This photo illustrates the advantages of pre-spinning prior to hammer forming. This fuel tank filler neck well was formerly hammer-formed in two sections, then welded together (upper photo). Below are shown the blank, the spun neutral shape, the transition stamping, and the finished part as produced in one piece made possible by pre-spinning.

spinnings are required, each spinning utilizing a form block progressively approaching the desired shape. In other cases, when the spun part is of such a shape that the form block cannot be removed from it (externally flanged parts, or barrel-shaped parts for instance) split form blocks are used. These blocks are made in sections, and are removed from the finished part a section at a time.

Some work hardening occurs during spinning of most metals, the amount depending upon the severity of the spinning operation and the alloy involved. When work hardness becomes excessive, or when more than one form block is used to obtain the final shape, the part is often annealed prior to finishing. Annealing not only softens the metal, but eliminates a considerable proportion of spring back, thus making it possible

to spin more accurate shapes.

Douglas experience proves that in many instances parts can be transition-stamped from neutral shapes which were impossible to form using staging dies only. Formerly, such parts were hammer-formed in two or more sections, then the sections were welded together. By pre-spinning to a neutral shape, these same components can be produced from a single sheet of material. This not only eliminates welding, but produces a stronger and more aerodynamically clean part. In other cases, parts that were formerly riveted assemblies are now produced as a unit by the pre-spinning, transition-stamping process. The metal breakdown in these parts is too severe to be accomplished by drop hammer staging dies only.

Naturally, in aircraft work, the to Page 54 →

Progress report on SAFE TRANSIT program

FINISH continues to keep its readers informed of the latest progress of the National Safe Transit Program for the reduction of packaging and shipping losses. Progress is steady and continuous in every phase of the program due to the interest and effort on the part of active committee members and also due to the full cooperation of industry. Program can become effective more quickly.

M

The Safe Transit campaign can definitely be credited with much of this acceptance as records indicate that a high percentage of the present

Shipping science being widely advanced by instrumentation and SAFE TRANSIT progress

SHIPPING science is being advanced at the fastest pace in history as a result of the activities of the National Safe Transit Committee," C. D. Clawson, president of



C. D. Clawson

the Porcelain Enamel Institute, sponsoring body, states. Citing a report of surveys made by a Technical Planning Sub-Committee headed by P. W. Bush, Clawson said that almost every important producer in the electric appliance, gas appliance, and utensil industry already have or are currently installing pre-shipment package testing equipment. Nearly fifty independent testing laboratories are installing or are seriously planning installation of equipment to serve manufacturers of PACKAGED PRODUCTS, and a very high percentage of carriers are also taking up the challenge.

(This progress is related to Projects I, for packaged products weigh-

ing 100 to 1000 pounds, and I-A, for packaged products, weighing less than 100 pounds, a pre-testing program for PACKAGED PRODUCTS which has proved its ability to cut in-transit losses to a minimum. Write to Porcelain Enamel Institute, 1010 Vermont Avenue, N.W., Washington 5, D. C., for complete information.)

The committee report shows that at least 18 of the big names in appliances, like General Electric, Westinghouse, Roper, American Stove, Nash-Kelvinator, Hotpoint, and Kalamazoo are actively using two-way rider recorders. Another survey shows that 73 railroads have a total of 796 impact registers and 79 shippers have 215 of the same equipment. About 40 large producers of PACKAGED PRODUCTS have recently constructed Conbur impact testing equipment. At least 50 large firms and government centers are actively using package testing machines, and about 125 firms have drop testing equipment.

The wide interest indicated by this extensive ownership of pre-shipment testing equipment is most encouraging, Mr. Bush states, because with so many firms already so well implemented the National Safe Transit



M. F. Weber

testing equipment has been installed since inauguration of the program in August of 1948. The Safe Transit program lent purpose to the use of such testing equipment by establishing a definite and widely approved pre-shipment testing pattern to follow which was acceptable to the carriers as well as to the manufacturers of PACKAGED PRODUCTS.

"Shipping is becoming a science today," Mr. Bush said, "and will become much more so when the data of the Technical Planning Committee, covering thousands of shipmentmiles by air, rail and truck, can be correlated and translated into terms of prescribed handling, loading, and packaging."

New SAFE TRANSIT projects started

NOW that the appliance and allied metal products producing groups are fast getting behind the National Safe Transit Program for pre-testing packaged finished prod-

ucts, three additional projects are being started.

Projects I and I-A consists of pretesting programs for packaged finished products and represent the man-

Loading Research Division Committee Members

- M. F. Weber, American Stove Co., representing Gas Appliance Mfrs.
 Assn. and Institute of Cooking & Heating Appliance Mfrs.
- Edward Zelinski, Hotpoint, Inc., National Electric Mfrs. Association
- I. J. Fairchild, Enameled Cast Iron Plumbing Fixtures Association
- Harold R. Flynn, Association of American Railroads
- A. E. Dowling, Railway Express Agency, Inc.
- John M. Miller, American Trucking Associations, Inc.
- Emery F. Johnson, Air Cargo, Inc. L. S. Beale, Wirebound Box Mfrs. Association
- C. J. Carney, Jr., Ind. Packaging Engrs. Assn. of America
- H. S. Adler, Fibre Box Association
- C. D. Hudson, National Wooden Box Association
- J. R. Watkins, Association of Mfrs. of Watkins Shipping Containers
- Edward Runser, General Electric Co.
- A. McGinnis, Servel, Inc.
- J. E. Haynes, Frigidaire Division, General Motors Corporation
- A. N. Perry, Signode Steel Strapping Company
- J. G. Bucuss, Strapping Division, Acme Steel Company.

ufacturers' part in the national program.

The three new projects, which form part of the original complete program developed by the Committee are Projects II, III and IV. Project II, consists of an organized program through which the various carriers, including rail, truck and airlines, will parallel the efforts of the manufacturers by improving shipping and handling conditions. A committee to coordinate the carriers' activities under the program is being organized by H. J. Benzie, of General Electric Co., and will soon be functioning.

Projects III and IV consist of a car marking and car loading program. This Committee (loading research division), headed by M. F. Weber, American Stove Company, is expected to correlate and publish existing information plus loading data currently being collected on shipment hazards by means of air, rail and truck test shipments using ride-recording equipment. It is expected that joint research between industry and carriers will lead to a general improvement in basic carloading practice. Some of the problems which may logically be considered include:

(1) Selection of proper equipment as to size and kind of equipment.

- (2) Preparation of car or truck for loading.
- (3) Proper stowing of product in car or truck.
- (4) Proper bracing or banding of car including use of proper bulkheads.
- (5) Use of doorway protection.
- (6) Proper way to unload material from car or truck to storage.
- (7) Proper use of placard on outside of car so that carrier will know of contents of car and accord it good handling.

Safe Transit labeling program underway

PACKAGED PRODUCTS which meet National Safe Transit Program standards will soon bear labels. The label which has been developed

and is now in final stages of approval will be supplied to manufacturers taking part in the program after cer-

to Page 73 →

At start of second airline test to determine effect of flight conditions on packaged products are, l. to r.: L. H. Stephenson, chief operations agent, Eastern Airlines, Cleveland office; R. B. Kennedy, co-pilot; D. V. Wheeler, pilot; and P. W. Bush, of Westinghouse, chairman, Sub-Committee on Technical Planning of National Safe Transit Program. (Read report in August, finish.)



From the Editor's mail . . .

employment in enameling industry

Dear Mr. Chase:

Do you have any information on the current condition of the enameling industry? A year ago this industry was begging for technical men and it usually requests from one-third to one-half of our graduates. Only one man was taken from our recent June class by this industry, but nearly all have been placed in other ceramic industries.

I have attributed this condition to the fact that several additional companies have gone into the appliance business since the war and as a result their production plus the outlet of the regular manufacturers has brought about an over supply. If this is true, inventories will have to be reduced before normal production can be resumed.

R. M. King

Professor of Ceramic Engineering The Ohio State University Columbus, Ohio

Who can answer Professor King's question in regard to the lack of demand for college graduates in the enameling industry? Address your letters to Professor King or to finish.

"valuable information and reading"

Gentlemen:

For some time I have received a complimentary copy of FINISH which I consider valuable information and reading. Due to a change in my position, I would appreciate it if you would now send it to me at my new address.

Walter Kassebohm Plant Manager Marchant Calculating Machine Co. Emeryville, California

"write up in local newspaper"

Gentlemen:

I thought that you might be interested in the enclosed write-up, "Art

with a Firm Foundation," in our local newspaper (The Seattle Times) Sunday feature section which was a result of the article in finish ("Enameled Artistry," May, 1949) on my work and the Blue Ribbon award which I received in the recent Arts and Crafts exhibit here.

Harriett Eggers Seattle, Wash.

wants all-porcelain refrigerator

Gentlemen:

We had some good refrigerators before the war. Real porcelain enamel. My neighbors have some good products with a porcelain finish which does not yellow, break off, or scratch.

My children's refrigerator is only five years old and already it has turned yellow. I have to buy a new refrigerator next month. (If a real porcelain enameled refrigerator is not available, I will use an ice box.) No use paying big money to get a yellow box.

Please, if you know who manufactures real porcelain enameled refrigerators, forward their name and address to me.

> Edwin Kolodzinski 93 Lake Street Florence, Mass.

The above letter was forwarded to finish by the editor of another trade publication.

many interesting letters received

Dear Mr. Chase:

I received the six copies of finish after some small amount of trouble with the Customs people who seemed to think that six copies was too much to let in duty free, but I was very grateful to have them as many people have been interested in seeing the article ("Appliance Manufacturing in Australia," March, 1949 finish).

Thanking you again for the article, in reply to which I have had many interesting letters from various persons in the States with reference to my questions about new products and new methods.

> John Simpson Associate Director A. Simpson & Son, Ltd. Adelaide, South Australia

making contact with advertisers

Gentlemen:

We are highly interested in your publication for the mutual benefit in establishing best contacts with your advertisers.

> Dhoomi Mal Dharam Das Exporters, Importers and Manufacturers Representatives Delhi, India

enamelers club for the south

Gentlemen:

Just came up from Tennessee and Kentucky. . . . Have noticed one fact that you might be interested in checking. c

There is no organization among the southern enamelers such as in the Eastern, Central, Chicago and Pacific Coast districts. It might fit in with your scheme of activities to start some thinking along these lines among the southern enamelers. There is really some fine work being done there and it might be to your advantage to look into the thing.

J. W. Frazier V. B. Punderson Co. Cleveland, Ohio

Here's a suggestion that porcelain enamelers in the South may want to act upon. One of the purposes of the Coordinating Committee of the porcelain enameling industry is to assist sectional groups in forming such clubs when such assistance is suggested. The Committee meets at Ohio State University this month during the Porcelain Enamel Institute Forum. If some individual or group in the South were to request the assistance of the Committee for formation of a club, it would be an appropriate time.

Ventilating air for paint room

is cleaned electronically

By J. F. Hines . WESTINGHOUSE ELECTRIC CORPORATION, CANTON, OHIO

C tinish

The most recent use being made of the electronic air cleaner is that of removing airborne carbon and dust particles from

the ventilating air for a paint room. This pioneering installation is at the Berger Manufacturing Division's Plant No. 2, Canton, Ohio, where metal wall and sink cabinets for the kitchen are painted white.

The first requirement of an air cleaner for the ventilating system for the paint room was one that would remove heavy smoke as well as the usual air borne dust and dirt particles from the entering air. In addition, the cleaner had to be extremely reliable and dependable—for around-the-clock operation when necessary;

had to be economical to operate; and, not too costly to maintain.

This air cleaner installation is large-more than 90 feet long and nearly 11 feet high. It has to be to precipitate the air borne dust and dirt particles out of 225,000 cubic feet of air per minute. As can be seen in Figure 1, the cleaner is made up of what appears to be a series of roller-hung numbered doors. Actually, these are air distribution baffles that serve to distribute the air evenly through all dust collector cells. This makes for more efficient air cleaning. In back of each baffle are five dust collector cells stacked one on top of the other. There are 13 such tiers of cells in a bank and two such banks in the system. The view in Figure 1 is of the clean air or leaving side of the system.

The roller-hung, box-like structure with the louvered face panel—next to air baffle N7—is the automatic washer for this cell bank. The hoses connected to it are for water, compressed air and adhesive fluid. A similar washer for the other cell bank can be seen at the far end of the room.

The system consists of three major parts: the ionizing unit, the dust collector cell, and the power pack. As can be seen in Figure 2, a zone of ionized air is created by the ionizer which consists of a number of very thin wires at an electrical potential of 13,000 volts d-c placed between electrically grounded tubes. All airborne particles, large and small, passing through the ionizer, pick up positive electrical charges and are thus made susceptible to electrical attraction.

Figure 1. This electronic air cleaner in the Berger plant is made up of 130 cells stacked 5 high in 26 tiers. It is said to remove 90 per cent of the smoke and dust and dirt from the 225,000 cfm of air it handles.



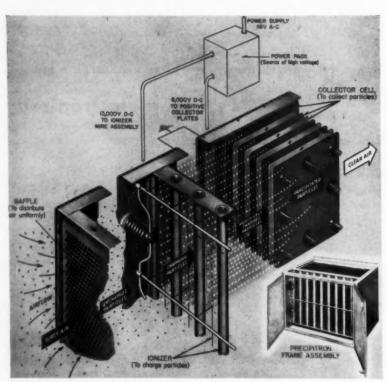


Figure 2. How electronic air cleaner removes airborne dust particles is graphically shown in this cut-away three-dimensional drawing. The arrows, indicating air flow, plot steps in precipitation process.

Figure 4. Centrifugal fans, left, pull 225,000 cfm of air through the air cleaner, right, and deliver it to the paint room. Air is forced up through the curved ductwork, then out into the paint room.



The charged particles in the air stream are then drawn into the dust collector cell which consists of a number of parallel plates uniformly spaced 5/16" apart. Alternate plates are grounded. Intermediate plates are charged at 6,000 volts d-c to create and sustain an electrical field between adjacent plates. Within the electrostatic field, the positively charged particles are forced away from the positive plates and attracted by the grounded plates. Upon contact with plates, particles lose their charge and are held firmly on plates by agglomeration and mechanical adhesion. Due to an adhesive automatically sprayed over the plates after each washing, the dust and dirt particles adhere to the flat vertical surfaces of the plates until washed off during the next cleaning. It is this precipitating principle of air cleaning that produces an efficiency of 90 per cent as determined by the Blackness Test prescribed by the United States Bureau of Standards.

th

Power for the 130 cells that make up the electronic air cleaner is furnished by the ten power packs shown in Figure 3. Five are in the row in the foreground, five in the row in the background although only one is visible. On the panel in the immediate foreground are mounted all the controls for the automatic washers. The conduits and pipes carry power wires to the motor, 150-180° F. water (insulated pipes), air and adhesive fluid to the washers.

Each power pack consumes approximately 300 to 310 watts of power when operating. As there are ten such packs, it means the entire electronic air cleaner — exclusive of washers and fans—consumes 3.0-3.1 kilowatt-hours per hour.

In more than a year since the air cleaner was put into operation, it has delivered 225,000 cubic feet of ventilating air per minute to the paint room that is 90 per cent free of heavy smoke and dust and dirt particles every minute of every shift. This performance record was made possible to a large measure by a cleaning schedule that provides for washing down each tier of cells once

every 13 working days. This washing down operation takes 30 minutes once the washers are positioned. As the washers are automatically cycled once started, they do not require further attention during the cleaning operation. The basin of each tier of cells is connected by a drain to the sewer; therefore, disposal of the grime laden adhesive and wash water is a simple matter.

The electrostatically cleaned air is pumped into the paint room by the six 38,000 cfm centrifugal type fans on the left in Figure 4. While 225,000 cfm of air is pumped into the paint room, only 185,000 cfm of air is exhausted by fans from the paint room. The difference, 40,000 cfm, leaks out through passage ways, windows and walls due to the pressure differential created and thereby precludes unclean air from leaking into the paint room through these openings.

Air is delivered overhead to the paint room

The air is delivered overhead to the paint room and is distributed around the room by a series of directional baffles, two of which can be seen in the upper half of Figure 5. The air is delivered overhead to the paint room to minimize the possibility of picking up dust particles, also, to preclude, as far as possible, the creation of draft currents. Two of the water-wash paint spray booths can be seen in the lower half of Figure 5, the entry end of one is on the extreme left, and the entry end of an adjoining booth on the right.

Unfortunately, the effectiveness of the cleaning efficiency of the system cannot be compared with any other type of air cleaner in this plant for the reason that the electronic air cleaner was installed at the same time the ventilating system was put in. However, the fact that the equipment reaches its dirt holding capacity every 13 working days is indicative that a serious economic loss due to airborne dirt is avoided. The periodic washing program restores the 90 per cent cleaning efficiency each time without delays or serious interruptions to the production schedule.

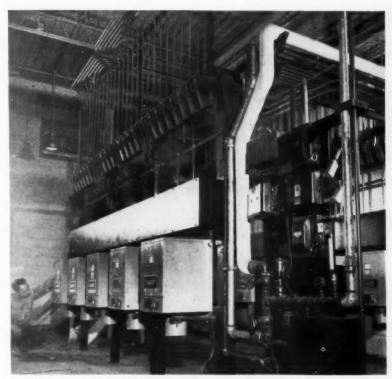
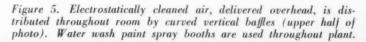


Figure 3. Each of the power packs (small cubicles), installed in ventilating system, consumes 380 watts and supplies power to 13 ionizers at 13,000 volts d-c, and to dust collector cells at 6000 volts d-c.





GPAX S

in Zirconamels

Typical High Fire Zirconamels

		Reflector	Reflectance values at application weight of	
		35 grams /ft²	40 grams /ft²	45 grams /ft²
TYPE	No Opacifier	74.8	77.0	78.8
A	2% Opax S	76.0	78.0	79.8
TYPE	No Opacifier	75.0	77.0	78.4
B	2% Opax S	76.5	78.8	80.4

Typical Low Fire Zirconamels

		Reflectance values at application weight of		
		35 grams /ft²	40 grams	45 grams /ft²
TYPE A	No Opacifier 2% Opax S	73.0 74.6	75.6 - 77.0	77.4 78.7

Opax S offers definite advantages as the mill added opacifier in the new super-opaque type of zirconamels. These benefits are realized in both high fired types (1520°F to 1540°F) and low fired types (1320°F to 1350°F).

Reflectance values are increased by 1 to 2 per cent in the normal application range of 35-45 grams per square ft. by 2 per cent additions of Opax S to the mill. This is clearly illustrated in the accompanying charts.

Color stability, scratch resistance, gloss, finish and enamel working properties are among other benefits obtained. For more detailed information, write our New York office or talk it over with our field engineers.

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Finish characteristics

that will sell metal products

containing an outline of specific product possibilities, sales advantages, and a plea for coordinated market development

By D. H. Malcom . MANAGER, MARKETING SERVICE DEPARTMENT, ARMCO STEEL CORPORATION, MIDDLETOWN, OHIO

P OR eight long years industry has either been forced to look only at production problems brought about by war-time demand, or has been



D. H. Malcom

D. H. Matcom

blinded to the future by the glare of an unprecedented post-war boom.

For eight long years purchasing agents have had to do the selling, and salesmen have spent an ever-increasing part of their time on red tape procedures.

For eight long years we have been spoon fed by war and post-war demand, drugged by government regulations and blinded by record consumer spending—until today we hear great cries of fear arising at the first sign of normal competitive markets returning.

Most economists do not expect a major depression. They do not see the return of the early '30's. Instead, they point out that this country has more savings than at any time in history. They point out that our population and consumer needs have grown. They point to the advance in our standard of living and the new

markets which this opens up. They tell of the new inventions and the new markets which these inventions have opened. They point to the strides we have made in improving production and lowering production costs. They tell us that during the past ten years we have not had the wild speculation of the first world war period, and that, therefore, we should not have the deflation that followed the first world war.

In fact, it seems that all we need to do to avoid a depression and keep our economy on a high level is to free ourselves of our self-imposed bonds and bring our distribution sights in line with our production capacity.

But this is not easy; it requires a combination of education and surgery. Education for the whole crop of new executives who have grown up in the past eight years and have never faced real competition, and surgery for those older executives who have let the cataracts of easy sales blind them to the need for aggressive selling. But many persons have regained their vision and many persons have re-learned the art of selling. And we, too, will get back our vision and improve our selling methods. The appliance and metal products industry will survive but whether we as individuals survive, and whether the industry as a whole grows or shrinks is up to us. It depends on what we as individuals and we as a collective industry do to help ourselves.

We cannot stop progress. We know that our competitors make good products. And we know that partly by their efforts and partly by our lack of effort, competitive products have moved into some of our prewar markets.

But when we lift our sights, remove the blinders of fear, regulation, and lethargy, we see on the horizon future potentials that not only make up for these losses but completely overshadow the small universe in which we have been living.

Tapping new markets

Some manufacturers are now tapping new markets but more of us must do it if we wish to stay in business. We must develop new uses for our products to replace the markets we have lost and to fill our expanded production capacity.

All too often during the past eight years we have heard manufacturers, when discussing future planning, talk

Editor's Note:

We recommend this article for reading by every appliance and metal product manufacturer who feels that he has been effectively using the characteristics of his product finish for sales purposes.

We recommend it to the producer of product finishes and the operator of metal finishing plants for a new slant on the inherent characteristic of a metal finish.

only about their new continuous enameling furnaces, their expanded factory space, their new buildings, and their new plant rearrangements which will provide more efficient operation. Too often they have failed to realize that expanded facilities and new equipment are only liabilities unless marketing plans develop business to utilize these facilities.

We can no longer ignore the fact



This power line transformer stays cooler because it has a porcelain enamel case. Porcelain enamel not only gives off radiant heat faster than any other type of metal surface, but gives the added advantages of corrosion resistance and durability.

that our production facilities have outdistanced our marketing plans. If we are to stay in business we must realize that high quality and low cost mean profit only when the product is sold. We must consider market planning as important as production planning. In fact, we must realize that today it is *more* important because for eight years we have had aggressive production planning with very little being done to develop new markets or new marketing methods for our products.

Market development is an essential part of business, and it is high time we realized it.

But what can be done about this situation now?

The first obvious thing to do is to look at our product and see where its basic advantages can be used. Everyone interested in finishes needs to take a new look at porcelain enamel and its future. Some need to do this because of money invested in enameling plants and equipment. Others need to take a new look at this finish because of manufactured products that need the advantages that porcelain enamel can give them.

Can you capitalize these finish characteristics?

So let's tear this age-old material,

porcelain enamel, apart and see what characteristics it has, whether or not these can be used as sales advantages, and, if so, what new market opportunities they open for this industry.

Heat emissivity

First, let's consider one of the little known characteristics of porcelain enamel—its ability to give off heat.

If you placed a quart of hot water in a sealed container made of porcelain enamel the temperature of the water would drop much more rapidly than if the container were made of aluminum, stainless steel, painted metal, or any other type of metal finish we know of.

Whether it's a space heater or a boiler in a factory, the primary objective of a heating unit is to get the heat out of the fuel that is being burned and into the air or water that carries it to the building or object to be heated. We must pass this heat through some solid material in order to separate the heat from the products of combustion. That material certainly needs the high emissivity advantages of porcelain enamel.

Combustion chambers of gas fired furnaces, secondary combustion chambers of all types of household furnaces, radiators, space heaters, large electric transformer cases, small transformer cases that are used with the neon signs you see in plate glass windows, compressor cylinders, and radiator fins are but a few of the applications which are logical uses for porcelain enamel because this material gives off radiant heat faster than any other type of metal finish.

Just as porcelain enamel will give off heat faster than any other metal finish, it will also absorb heat faster than any other type of finish. Therefore, freezer plates, and refrigerator evaporators—in fact, the entire refrigerator industry, offers opportunities for porcelain enamel. For here is a material with the proper heat characteristics that also resists corrosion and is durable.

The porcelain enamel industry has wasted time worrying about not having a material that reflects heat and we haven't capitalized on the fact that we do have a material that is tops for soaking up and giving off heat.

Abrasion resistance, hardness, and smoothness

Now, let's look at some of the characteristics of the surface of porcelain enamel. For example, the trite statement we have all made that porcelain enamel is hard, smooth, and resists scratching. Some manufacturers have torn this statement apart, have found out what these words really mean, and have built a good business of selling porcelain enamel

Hee	at Emissivity Values	
Material	Emissivity	Reflectivity
Aluminum—bright	4.0	96.0
Aluminum—dull	4.1	95.9
Galvanized—fresh	4.4	95.6
Stainless steel #7 finish	13.6	86.4
Stainless steel #2B finish	15.8	84.2
Porcelain enamel—white*	77.4	22.6



The wall lining in this restaurant cafeteria is durable, can easily be kept sanitary, and has a permanent, colorful appearance because it is finished in porcelain enamel.

for applications that require hardness, smoothness, and abrasion resistance.

We have all worried about the fact that porcelain enamel, when it is mistreated, may be damaged. But we have failed to remember that the reason this surface damage does occur when porcelain enamel is mistreated is because this finish is hard. And this factor, together with the factor of smoothness makes it ideal for conveyor handling equipment, coal chutes, and slides.

Each of the hundreds of grain elevators in use today has several hundred feet of conveyor piping that must be replaced all too frequently because it fails from a combination of corrosion and abrasion. In porcelain enamel there is an ideal answer to this problem. The entire materials handling field is open to promotion of porcelain enamel because of its excellent abrasion resistance, its smoothness, and its low friction characteristics.

The low friction characteristic is also the reason why porcelain enamel tubing is desirable for tray rails in cafeterias, for bearings in industry, and for all other applications which require a surface that doesn't "gall," is hard and smooth. Air filter plates present another opportunity.

We could go on and on listing the characteristics of porcelain enamel and the future markets they open for industry. For example, we could talk about the acid resistance of por-

celain enamel. And we could talk about the resistance to humidity and moisture and the needs for such a material in equipment ranging from water cooling towers to industrial air conditioning systems to small home coolers to watering bowls for dairy cows.

Color has been neglected

I don't believe I have ever read a

piece of literature on porcelain enamel that didn't mention the fact that it was available in a wide range of colors. But like Mark Twain's weather, little has been done about it.

How much real effort have we devoted to promoting the color advantages of porcelain enamel? I daresay that most manufacturers have sidetracked the advantages of color and have pushed white porcelain enamel just to make their production problems easier.

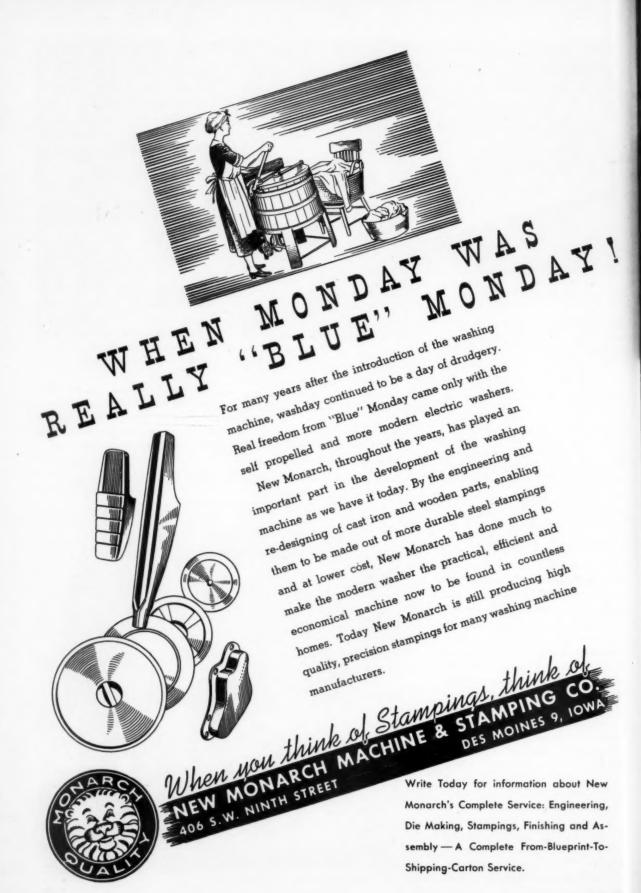
Let's take the home kitchen as an example. What did the porcelain enamel industry do about color for this workroom of the home? We waited until manufacturers of plastics came in and sold the housewife on buying their products because they were colorful and would, therefore, "dress up" the room in which she spends so much of her time.

It's the enameling industry that says "we can faithfully reproduce any color in the spectrum." But it was the plastic manufacturers who really got the housewife interested in

to Page 78 ->

The L-shaped heat exchanger on this Norge home heater gives more heating surface, insures longer heater life, and affords more efficient heat transfer because it is porcelain enameled.





HILL



AMERICAN HOME LAUNDRY MANUFACTURERS' ASSOCIATION

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THIS is the third year that finish has carried a special section following the mid-summer meeting of washer-ironer-dryer manufacturers at Mackinac Island to give a complete report on industry activity, to show the latest products of the equipment manufacturers, and to present industry personalities. Readers will be quick to see the change in name of the Association, formerly known as American Washer & Ironer Manufacturers Association. By group ac-

tion at the mid-summer meeting, the name has been changed to American Home Laundry Manufacturers Association, as shown on this page. With the increasing prominence of dryers in the home laundry equipment picture, the former name was not allinclusive with regard to products manufactured. As pointed out by F. M. Mitchell, head of the Association's Dryer Division and manager of the Frigidaire laundry equipment division of General Motors, the new name not only inferentially includes washers, dryers and ironers, but also will encompass any new product which might later find its place in the industry's manufacturing plants for making home laundering still easier for the housewife. He declared also that the new title also expresses the Association's objectives a great deal more clearly than the old name did.

The Committee made it possible to mix business and pleasure by setting



"Don't see why maw just don't leave it outside ... nuthin' can hurt thet **Vedoc** finish"

Yes Sir! Vedoc is the hardest wearing onecoat baked finish you can find. High resistance to soaps (storms) and alkalies. Vedoc can be matched perfectly to Porcelain enameled tubs, is long wearing, easily cleaned and provides maximum protection against rust. Baking time is 20 minutes at 300° F—seven minutes with infrared. Vedoc finishes are developed for a specific use, then formulated to fit each customer's production setup. Write us of your requirements. We have, or can create, an organic industrial coating that will solve your finishing problem.



Your Best Guide to Protective Coatings Formulated to Solve Industrial Finishing Problems.

LIQUID PLASTICS DIVISION

FERRO ENAMEL CORPORATION
4150 EAST 56th STREET . CLEVELAND 5, OHIO



H. Paul Nelligan,
president of
AHLMA, and head
of Easy Washing
Machine Corp., is
shown addressing a
session at the home
laundry manufacturers' summer
meeting.

aside Thursday, July 14, for conducting all the necessary business of the Association and for reports of the various working committees. Only one speech was scheduled which consisted of a stirring address on salesmanship by H. G. Moock, recently retired vice president and general sales manager of Plymouth division, Chrysler Corporation, Detroit. Principal activities for men on Friday consisted of a golf tournament, banquet and other recreational activities.

Many of those in attendance brought their wives and either arrived at Grand Hotel before the convention, or stayed for the weekend to take advantage of the unusual facilities for relaxation. The ladies were kept busy throughout the convention with golf tournaments, carriage rides, boat cruises, luncheons, cocktail parties, bridge and dinner parties.

Speaker's podium presented to Association

An attractive and unique speaker's podium was presented to the Association by Howell G. Evans, organization treasurer, on behalf of the Hamilton Manufacturing Company, Two Rivers, Wisconsin, dryer manufacturer of which he is vice president. The podium is in rich oak with blue velvet drapes and the unique builtin features include speaker's light, microphone, device for lifting and lowering to height of speaker, a clock, and a red light stop signal which can

be set to warn a speaker that time is up. A hand carved medallion bears the Association name.

Nelligan speaks on dealer problems and sales

"Too many home appliance dealers are wandering about in a dream world of their own making, victims of a process of idle thinking which makes them utter a 'women aren't buying' plaint as Gospel truth, instead of realistically facing facts and going to work, which, incidentally, would come under the heading of utter novelty for merchants softened by the runaway buying of the three postwar years," declared H. P. Nelligan, president of the Association and

head of Easy Washing Machine Corp., Syracuse, N.Y.

(In our Finish Line editorial we have been consistently pointing to the "sad situation" at the retail level of appliance selling. We have also pointed to the necessity for appliance manufacturers putting their best men on the job of orienting retail sales outlets to a buyers' market and training retail salesmen for the return to "shirt-sleeve" selling.)

"At the end of 1941 our industry was hailed from the housetops for achieving an all-time pre-war high in manufacturing household washers, dryers and ironers but now when our production, based strictly on demand, is running 30 per cent ahead of that year we are confronted by dealers whose faces are so long that barbers would be justified in charging \$4.75 for shaving them," President Nelligan said.

Mr. Nelligan revealed that factory sales of washers will show an average of 215,000 washers per month for the first half of 1949.

"Our washer sales in the three years 1946-48, inclusive, were 2,023,-981, 3,783,632 and 4,311,000 respectively, and sales for the first six months of 1949 alone will be close to 1,300,000.

"We could not keep on indefinitely breaking our own sky-topping postwar records, yet we are manufacturing for a market which is increasing

H. G. Moock, recently retired vice president and general sales manager of Plymouth Division, Chrysler Corporation, presented a stirring address on salesmanship. The attractive podium was presented to the Association by Hamilton Manufacturing Co.



LIGHT METAL CASTINGS

for Home Laundry Equipment and all other household appliances?

- 1 . . . Weight Saving resulting in power saving, smoother operation, less vibration, longer life and lower repair and maintenance cost.
- 2... Resistance to Corrosion and ease of applying surface finishes.
- 3... High Thermal and Electrical Conductivities.
- 4 . . . Easy machining and finishing.



Gear Case Cover — typical of the many varied shapes and designs in this type of unit for the washing machine, automo-tive and other industries. This cover weighs only 2 lb., 4 oz.

ACME OF CHICAGO FOR

aluminum and magnesium sand castings and aluminum permanent mold castings?

- 1 . . . A brand new plant with completely mechanized foundry for producing aluminum sand castings.
- 2... Competent engineering service to re-design or assist in designing for best production results in either sand or permanent mold castings.
- 3 . . . Complete heat treating equipment.
- 4... Twenty-eight years of "know how" behind every casting produced.
- 5... Quick service resulting from continuous volume production of castings of all sizes.



Oil Stove Grill - example of Oil Stove Grill — example of thousands of units manufactured for the stove industry is this aluminum alloy stove grill with wall sections from 1/8" to 1/4". Strong, longlasting but light in weight.

Acme engineers will work with you to answer any casting problem and you will find the end result to your liking - in design, in production cost and in quality of the finished part.

Send us your blueprints, samples or patterns and we will furnish quotations promptly.

ALUMINUM FOUNDRY CO. 6843 SOUTH BELL AVENUE **CHICAGO 36, ILLINOIS**



Members of AHLMA Associates
Committee are, left to right:
J. J. Goodwillie, Dole Valve;
H. C. Kunkleman, Bliss &
Laughlin; O. L. "Ollie" Earl,
Acme Aluminum Foundry; G.
W. Greene, B. F. Goodrich Co.;
Terry Craig, Mullins Mfg.

by 2,000,000 wired homes yearly, with a population 16,000,000 greater than in 1940. And our equipment proverbially is a natural for homes with children.

"I have faith in the inherent determination of the American people to keep on maintaining high standards of living. We are manufacturing the best home laundering appliance values in the history of our industry. An industry which has achieved as ours is continuing to achieve has the right to expect and even to demand a corresponding degree of enterprise clear on down the line to the salesman who gets the order."

"Today's retail home laundering equipment salesmen are in great need of actual field training and washer, dryer and ironer manufacturers and their representatives, as well as distributors and their forces, must begin at once 'showing them how to approach Mrs. Housewife'." This was the warning given by W. R. Dabney, vice president, Ironrite Ironer Company, and chairman of the Association's ironer division.

"Pre-war selling methods worked well and they will work as well again as they did then, but only if the manufacturer leads the way by actually going into the field to prove it," Mr. Dabney declared. "Manufacturers are giving distributors and dealers the same story: "The honeymoon is over. You must get back to selling." This is good advice, but it is ineffective without action. We ironer manufacturers know the end result

of action as we proved it in our test campaign last spring in Decatur, Illinois. We showed then that the way to get a dealer back to selling is to line up with him shoulder to shoulder and guide, show, lead and demonstrate his way back to aggressive selling."

Ironer merchandisers in the Association joined to promote a city-wide drive in Decatur. Prizes were given for the best windows and for the best reasons, 25 words or less, why shopper contestants wanted an ironer. Very few ironer sales had been made in Decatur before the two-week drive. The good effects of the various manufacturers testing out intensive sales promotion plans were shown immediately.

Ironer sales had been 27 by 9

Members of AHLMA Engineering Committee are, left to right: G. I. Cockerill, Apex Electrical; John B. Dyer, Easy Washing Machine; Frank Breckenridge, Automatic Washer, chairman; Chas. S. O'Neil, Hamilton Mfg.; Walter C. O'Connell, General Electric; W. P. McCarty, Hotpoint; and David Hays, AHLMA engineering consultant.





DESIGH

ENGINEERING

PRODUCTION

Standard Parts for the Washing Machine Industry

Wringer Heads Transmissions Drain Bodies Pumps

ferrules.

Plugs

Faucets

Strainers

Gears

Pump Pulleys

Handles

CATALOG AVAILABLE BY REQUEST

Diecastings By RUPERT DIECASTING CO



dealers in February and 23 by 9 dealers in March, up to the campaign. It, in late March, early April, produced 75 sales by 13 dealers. In the rest of April, 15 dealers sold 49. Sixteen sold 54 in May; 17 sold 40 in June. Sales stayed about the same in July.

"The dealers who were given the best cooperation in Decatur and who responded with the heartiest spirit are the ones who are viewing the ironer-selling future with confidence.

"The only way to get dealers started is to take them by the hand and take them out and show them how to start.

"Each of our salesmen should teach one more man how to sell and start the chain or pyramid that will get the salesmen back to selling within the year," concluded Mr. Dabney.

National Sanitation Foundation to serve industry

G. I. Cockerill, Apex Electrical Mfg. Company engineer and chairman of the National Sanitation Committee of the Association, reported on the work of his Committee in relation to a study of bacteria and plumbing problems in general.

The Association has underwritten a 3-year study of household washers in relation to water supplies, contamination, etc., which is being conducted by the National Sanitation Foundation at its headquarters on the University of Michigan campus, Ann Arbor. The Foundation, a nonprofit research organization, has the sponsorship of such organizations as the United States Public Health Service, the American Public Health Association and the American Association of Physicians and Surgeons.

Personnel heading up the study of household washers has Dr. Thomas Francis, Jr., of the University faculty and late head of the Society of American Bacteriologists, as consultant, and includes Dr. Nicholas Milone of the Foundation; Prof. Nathan Siani of the faculty, president of the Michigan Public Health Association; Dr. Gerald M. Ridenour, also of the faculty; and Walter Tiedeman, of

the New York State Department of Health. Dr. Henry F. Vaughn, dean of the University's School of Public Health, is president of the Foundation.

Sales data reported

by trading areas

Paul N. Berner, manager, home laundry equipment sales, Norge Division of Borg-Warner and chairman of the Association's Conventional washer division, reported for J. A. Drake, Norge's market research director and chairman of the Association's market research committee. He stressed the value of the industry's cooperative statistical reports for the assembling of market research data of value to the membership. Statistics will no longer be reported by states, but will be handled by trading areas in line with the new program started some time ago.

Safe transit program lauded

R. H. Thompson, traffic manager, Maytag Company, chairman of the Association's traffic committee, was to Page 44→



finish SEPTEMBER . 1949



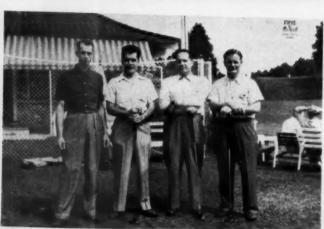




SNAPSHOTS FROM S OF AMERICAN HO MANUFACTURERS'





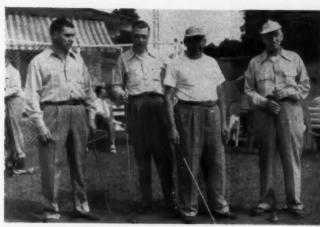






















D. R. Byerly, Procter & Gamble; G. I. Cockerill and E. C. Buchanan, both of Apex Elec.; Elisha Gray, 1900 Corp.; A. F. Boone, Mullins Mfg.; and W. R. Gowdy, Proctor & Gamble.



H. Shanafield, Electrical Dealer; R. A. Greir, Johnson Rubber; Carl Rigsby, Packard Elec.; Zach Waldron, Johnson Rubber; Gene Manning, Packard Elec.; W. R. Edwards, Johnson Rub.



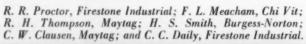
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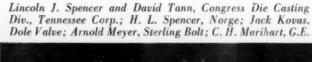


E. C. Buchanan, Apex Elec., accepts trophy for "greatest bull-thrower in AHLMA" from H. Kunkleman, Bliss & Laughlin.



William Shaw, publicity man, points to prize winning photos in National Home Laundering Week Contest.











We've specialized in stampings for the washing machine industry



MULLINS MANUFACTURING CORPORATION

SALEM, OHIO

Design Engineering Service, Large Pressed Metal Parts, Porcelain Enameled Products

THE problem of supplying washing machine tubs has been turned over to us by leading manufacturers time and time again.

We're glad we have the reputation of leadership in the field. And we accept the responsibilities. You will find Mullins ready always with the best technical knowledge and equipment. You will find an alert, progressive attitude—an honest belief that the problems of your business are our problems too.

In planning for the future or for the most economical source for current production, consult with us. Mullins has made many notable contributions to the industry's progress and hopes to make many more.





Dexter



Kenmore



Birtman



Whirlpool

-> from Page 39

delayed enroute by bad flying weather, and his report of work by the traffic committee was read by A. H. Noelke, Association executive secretary.

Mr. Thompson's report lauded the National Safe Transit Program as instituted by finish and coordinated by the Porcelain Enamel Institute. President Nelligan asked for comment by Dana Chase, editor and publisher of finish, on the importance and scope of the Safe Transit Program.

Further details of this important program were given to the Home Laundry traffic men at a meeting on August 12 by E. H. Shands, director of engineering and development, Geo. D. Roper Corporation, and chairman, Technical Planning Division, Safe Transit Committee, and Dana Chase, chairman of the Educational Division, Safe Transit Committee.

Ultra sonic washing

Frank Breckenridge, executive vice president of Automatic Washer Company and chairman of the engineering and research committee, reported on the work of his group. The activity of this committee includes cooperation with the ASTM D-12 Committee, cooperation with Under-

writers' Laboratories, etc. Test work has included efforts to standardize on "soil cloth," washability tests, improvement of standards for electrical insulation for dryers, consideration of standards for "wall spacing" of dryers, etc.

Reference was made to ultra sonic washing, research work on which has been conducted at Penn State College. (Ultra sonic washing consists of cleaning with vibrations above the sound level. Standard washers 3½ kilocycles—ultra sonic 15,000 kilocycles and up.) Claims have been made that soil cloth can be washed in 30 seconds without soap or detergent by the ultra sonic method.

It was explained by the engineering chairman that equipment for socalled ultra sonic washing is very expensive at the present time, and that observations of this process were merely for educational information. It is not expected that this type of washing will be available in the near future, but the Committee is on the alert to progress in the field.

Number of dryer manufacturers increases

F. M. Mitchell, Frigidaire Division of General Motors, chairman of the dryer committee, pointed to the fact that while there was only one major manufacturer of household dryers before the war, there are now nine brand names on the market.

This committee was highly favorable to the new name adopted for the Association as properly including this comparatively new segment of the industry.

National home laundry week to be continued

Mr. Noelke presented a report of M. A. Toussaint, of Barlow & Seelig Mfg. Co., chairman of the sales and advertising committee, in which full information was given on the results of National Home Laundry Week held June 7-13 this year. It was shown that May shipments increased over April, and June over May, contrary to normal seasonal trends. National radio network hours carrying information on home laundry week included Rinso's "Amos and Andy and Paul" (Paul Nelligan, president), two Jack Smith broadcasts (through the courtesy of Proctor & Gamble), the Firestone Hour, etc. Twenty railroads put stickers on dining menus calling attention to the week. One member company reported 1,000 special dealer windows for the event; another, 800 (250 in the Chicago area alone); and still another, 500 windows.

General Electric



One Minute



Hotpoint



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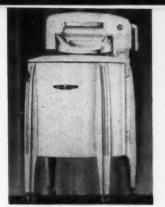
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Speed Queen



Norge

The importance of the electrical utilities was indicated as invaluable in spearheading this type of effort among dealers.

The membership voted to repeat National Home Laundry Week in 1950, June 5 to 12.

Thursday, January 12, was set for the annual AHLMA meeting to be held at the Morrison Hotel, Chicago. The home furnishing market is scheduled for January 9 through 20 in Chicago, and the Association meeting will tie in. The following schedule is suggested:

Sunday, January 8—Check in. Monday, January 9—Market.

Tuesday & Wednesday, January 10 and 11 — National Home Laundry Conference under the auspices of AHLMA.

Wednesday afternoon and evening, January 11 — Executive Committee meeting.

Thursday, January 12 — All-day annual meeting.

The 1950 summer meeting is scheduled for Chalfonte Haddon Hall, Atlantic City, July 12-14, with an Executive Committee Meeting on July 11.

You sell or you bust!

In speaking to the home laundry equipment manufacturers, Mr. Moock,

featured speaker, said:

"Like most other industries, you are confronted by the problem of whether you shall build what you can sell, or sell what you can build.

"If the decision is to sell what you can build, sales managers will come up with the right results or else. There can be no doubt of our ability, our know how, to produce goods."

The picture of today's overall business situation depends on what each individual wants to see, according to Mr. Moock, now sales counselor to the Chrysler Conference of Business Management.

"To some, the situation today is 'curtains,'" he said. "To some, it's 'normal.' To some, it's 'tops.' Even the economists are confused, in disagreement. You hear of inflation, depression, recession, disinflation, readjustment, the buyer's market.

"Nevertheless, millions of women want to buy, and have the money. But they will utter the sweetest words in any language, 'I'll take it,' only when they become convinced that what you have to offer will give them more satisfaction, more service, more pleasure, than keeping their money. In other words, 'You sell or you bust!'"

He emphasized the fact that "there is nothing to fear for any man in

this group who 'knows how.' Four hundred and seventy thousand business started in one year, and at the end of the year one-half were out. They did not 'know how.' Eighteen hundred and thirty-two auto manufacturers have tried it—fifty years have come and gone—only twelve remain, and three make 90 per cent of the cars produced. In contrast to this, only four manufacturers of washers or ironers passed out of the picture in fifteen years of cooperative activity by the AHLMA. This is a happy record.

"Sales of the washer-ironer industry are off considerably from the ultra peak year of 1948, but what is a legitimate comparison? It is not being realistic to compare 1949 with 1948. The pre-war peak year of 1941 has been surpassed this year so far by over 30 per cent."

Manufactured product not sold until final retail sale is made

A few pertinent remarks from Mr. Moock's talk included the following:

"If you can't sell your goods or services at a profit, you shouldn't have produced them in the first place—this applies to individuals, companies, associations, or our country.

"You take in more than you spend, or you don't stay in business.











Whirlpool



General Electric



Maytag



Frigidaire





Businesses do not fail, but men in business do. Nothing has happened in the way of a sale of a manufactured product until the final retail sale has been made. Don't tell dealers what to do-get out and tell them how to sell. Nothing has happened but 'expense' until the consumer has said 'I'll take it.' The minute the dealer and the wholesaler begin to lose sales, the 'jerk' comes on the production line. Look at costs in management in the light of what you could do if you had to do it. Let's don't 'wait to see what happens,' let's do it now!"

Fallacies in sales

Mr. Moock listed a number of common fallacies which he said are

still the by-word of many who attempt to sell products.

- 1. That the public will seek the best.
- 2. That the public knows the difference between price and value.
- That the public automatically rewards enterprise and service.
- 4. That the public knows what it wants.
- 5. That the public will demand that which it is not reminded of.
- 6. That value is anything but a personal estimate.
- That the ultimate consumer will lay down his personal right of choice to any board of experts.
- Mr. Moock emphasized the point, "It's not enough to tell men—you must show them how."

Comments from home laundry equipment manufacturers

Editor's Note:

Finish invited executives of producing companies to comment on the future of the washerironer-dryer industry. The following are a few of early replies to this invitation.

Prices have become firm

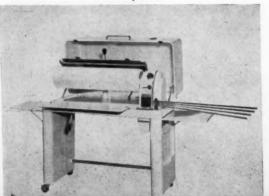
P. N. Berner, home laundry equipment sales manager, Norge Division, Borg-Warner Corporation — "It is quite apparent that prices on wringer type and automatic washing machines have now become firm and that most of the distress selling at retail and some wholesale is behind us.

"We have noted a remarkable increase in sales during June and July and it is keeping up in August so far, which is usually a poor month in the Home Laundry Industry. Once again

Horton



Whirlpool



Hotpoint



INGERSOLL

can now say—

"YES..YES..YES"!

The steel shortage is over. Vitreous enameling stock is back. We are now in a position to say "Yes" to all inquiries.

Take advantage of Ingersoll's knowhow and specialized production facilities to assure yourself of high quality washing machine tubs at lower cost.



INGERSOLL STEEL DIVISION

BORG-WARNER CORPORATION

310 South Michigan Avenue, Chicago 4, Illinois



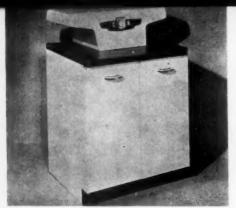
Automatic



Ironrite

Hotpoint





Taylor



Simplex

the public is starting to recognize value and quality and we feel that is one of the answers why we are experiencing an upturn in washer sales. We believe the industry as a whole will experience much more business in the last half of this year than it did in the first half."

Developing widening markets

Edward R. Taylor, national sales manager, Hotpoint, Inc. -

"Home laundry equipment, particularly automatic washers and electric dryers, have made important gains in public acceptance during the postwar years. More women today are doing their own housework than before the war. For this reason automatic home laundry equipment should continue in good demand. While industry progress has been rapid in educating housewives to the advantages of worksaving home laundry appliances, continually widening markets can be developed through cooperation of the various segments of the electrical industry."

Distribution is very important

John M. Wicht, vice president, Blackstone Corporation -

"It appears as though the domestic

laundry business is now settling to that which may be termed a normal rate of sale, and, if we, as manufacturers, avoid the bad practices that result from overproduction, we can undoubtedly restabilize our sales momentum once more.

"We at Blackstone are very optimistic about the fall season. We are doing all possible to maintain full margins and avoiding that which will destroy distribution through the encouragement of gratuities or the reduction of margins to an unlivable level. We feel that distribution is a necessary adjunct to our business, and, therefore, we have every intent to protect it."

Public acceptance of ironers

H. A. Bumby, president, Barlow & Seelig Mfg. Co. -

"The washing machine industry in the past 40 years has made steady progress in lightening the load of the American housewife. Not only have washing machines reached a high degree of perfection, but public acceptance of ironing machines has reached a new peak. Next to the washing machine, the ironer has been the greatest work-saver introduced in the American home.

"We proudly salute those manufac-

Armstrong



Beatty



PROTECT THOSE VALUABLE FINISHED PRODUCTS With the Right Box or Crate

*

NAILED OR HINGED CORNER

PLYWOOD CRAVENEER WIREBOUND

BOXES OR CRATES



Consult with our packing engineers on product protection — Our designing and testing laboratory is at your service, without obligation.

(HICAGO MILL AND LUMBER COMPANY

33 South Clark Street

Chicago 3, Illinois

Plants at: Helena, Ark. . Greenville, Miss. . Tallulah, La. . Rockmart, Ga. . Chicage, Ill.

turers who have made contributions to the welfare, betterment and progress of the washer-ironer industry."

Home laundry for small dwellings

. C. G. Taylor, director of sales, The Taylor Corporation —

"In the past decade our cities have grown greatly and they have included in them many small apartments. At the present time there are 34,000,000 people living in living quarters of three rooms or less. Many of these persons work during the day and do not find it practical to use large standard washers or the laundries or other devices that have been produced to assist the washing of personal things in the home.

"To meet this condition our company has set out to manufacture a complete home laundry for small homes and apartments. This includes a dryer which can be used any time of the day or night but still uses nature's principles of drying. That is, passing a large volume of air over the clothes to remove the moisture without harming or abusing the clothes in any way. The air may be heated in order to speed up the drying. An ultra-violet, germicidal lamp is added to duplicate the drying of clothes in the sunshine."

Excess inventories liquidated

F. W. McGrath, vice president in charge of sales, Appliance Manufacturing Company —

"The excess inventories held by both distributors and dealers during the first month of this year has apparently been entirely liquidated. The sluggishness of the home laundry equipment industry, during the first quarter of 1949, was, we believe, altogether because of overshipment in the latter part of 1948, and an unrealistic approach by most distributors and dealers to the conditions which would accompany a return to a closer balance of supply and demand.

"Then, for the first half of this year, there existed in the minds of most buyers a definite conviction that washing machine prices would break drastically by the mid-year market. This did not happen — principally because prices cannot go lower until costs can be adjusted in a corresponding manner. At the summer markets, the truth became evident, and because buyers had been operating with a practically liquidated inventory, they began placing orders. The encouraging factor is that these orders have resulted in a most gratifying increase in volume, but at the same time they clearly represent purchases only for current requirements.

"It does not seem at all too optimistic to conclude from current indications, and with the old excess inventories out of the way, that the remainder of the year holds excellent promise for the home laundry equipment industry."

Plenty of buying power today

Charles Bassett, One Minute Washer Company —

"In our opinion there is justification for confidence in the future. There is plenty of buying power today, but the public is interested in values, and can be sold. Dealers today are successful who are aggressively pushing for business. There is a feeling of optimism among most deal-

Ironer outlook is bright

W. R. Dabney, vice president, The Ironrite Ironer Company —

"We look forward to the last four months of 1949 with optimism and enthusiasm as far as the outlook for ironers is concerned.

"Because of the low saturation of ironers in the United States, we feel that it is one of the few remaining appliances on which a dealer or distributor can concentrate more and more effort and be rewarded in proportionate profits for such efforts, and that, as the year progresses, more and more dealers will decide to do this very thing.

"It is true that the honeymoon is over and that every ironer really has to be sold; but, once we show any dealer how easily ironers can be sold by getting Mrs. Housewife to try one in her home, we are sure that more and more dealers will decide to place emphatic emphasis on their efforts in selling ironers.

"For this reason, we predict that ironer sales will show a continual gradual increase and will be one of the brightest pictures in the appliance field."

Ironers now considered essential

L. O. Reese, vice president and general manager, Armstrong Products Corporation —

"Ironers are rapidly approaching the point where they are considered essential in any well equipped home laundry. The much discussed and long awaited saturation point should be passed within the near future."

Enthusiasm for automatic dryers

Fred/M. Mitchell, manager, laundry equipment sales, Frigidaire Division, General Motors Corporation —

"The automatic clothes dryer is a relatively new appliance, yet it is obvious already that it has a most encouraging present and a future which is exceedingly bright.

"Any time any woman anywhere purchases a washer of any kind she becomes, by the very nature of her purchase, a prospect for one of the new automatic tumbler dryers. Millions of these prospects are awaiting sales of dryers by aggressive dealers.

"The enthusiasm of the dryer users knows no bounds. It is this very enthusiasm which already is helping pre-sell other prospects.

"Dealers and salesmen who sell the dryer on its time and labor saving conveniences find many 'dry' dollars in their cash registers. Reports show that 180 American cities have cloudy or partly cloudy weather about 70 per cent of the time. This means there are only two clear days a week for clothes drying.

"The clothes dryer is the one appliance that permits a homemaker to complete her washing any time and under any weather conditions. This climination of the 'clothes line blues' will mean more to the modern home-

to Page 79 ->



this and much more abuse. It doesn't yellow with age or with

heat. A flat iron won't hurt it. It is easily kept clean. Now that VITREO porcelain enameled tops are again freely available, may we suggest that you cover your appliance with a real work top?

Our engineers will help if there is any question about design' We are always ready to quote on your requirements for any quantity of tops.

Plan... for the Lifetime Finish

VITREOUS STEEL PRODUCTS CO.

BOX 1791, CLEVELAND 5, OHIO (Factory at Nappanee, Ind.)

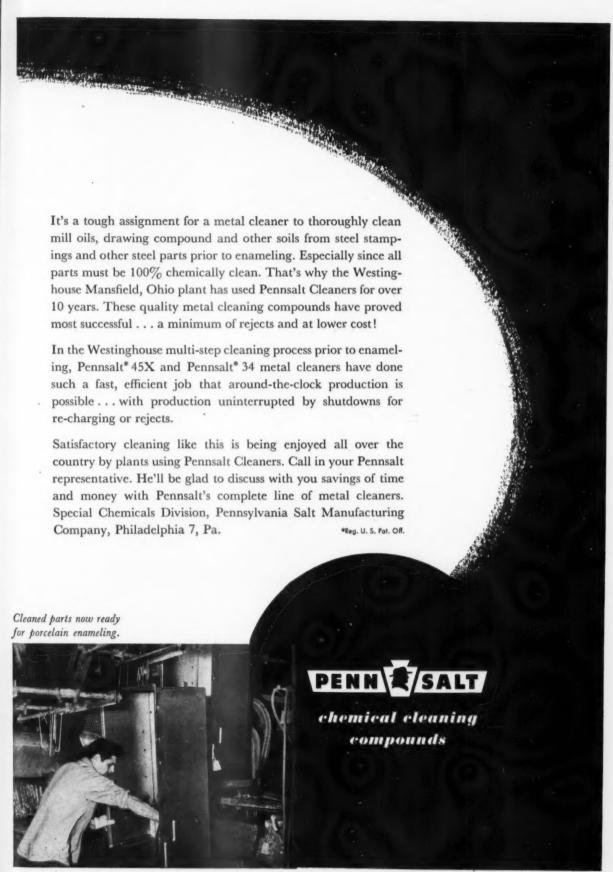


in porcelain enameling
gets fewer rejects
higher uninterrupted production
lower cleaning costs

Pennsalt Metal Cleaners

Liners and Laundromat parts emerge from Pennsalt Cleaner solution.





finish september . 1949

Pre-spun shapes facilitate drop hammer forming

(Continued from Page 21)

aluminum alloys have come in for the largest share of attention. But the Douglas spinning department has worked with other metals enough to prove that pre-spinning is a distinct asset in the elimination of multiple sets of drop hammer staging dies.

Producing steel templates

So far (and of greatest interest to the appliance and allied metal products industries), use of the pre-spinning, transition-stamping process with low carbon steel has been confined to the tooling application of producing apply drill and trim templates for sizing and guidance in drilling and trimming of aluminum production parts. The template is spun with the same form block used for the aluminum part and transition stamped with the same drop hammer dies. The very nature of these operations prove that the low carbon steel is just as applicable to the process as the aluminum alloys.

The steel template thus produced is the same size and shape as the aluminum production part. After final transition-stamping, the template is split, the halves spaced slightly, then welded together. This spacing provides room for "cupping" or insertion of the aluminum production part into the template for sizing and marking for drilling and trimming. According to Snook, production of these low carbon steel templates by the process has proved very successful.

Insofar as is known to the author, or to Snook himself, this is the first time that metal spinning has been combined with drop hammer forming as a production process. Though still largely in the experimental stages except for use with the aluminum alloys, the process offers unlimited possibilities in other than aircraft work and with many types of metals.

The most promising possibility, of course, is for development of the process by those industries and jobbing concerns where production of similar parts is in relatively limited quantities. The cost of either multiple drop hammer staging dies or press dies under such conditions is sometimes almost prohibitive. The ability to produce a neutral shape on a spinning lathe which could be transition stamped with a minimum number of dies should pare these costs to the bone. It is worth both thought and experimentation by concerns faced with these conditions.

U.S. Steel releases movie on stainless steel

United States Steel Corporation has released a new 25-minute technicolor motion picture, "An Orchid to Mr. Jordan," which illustrates some of the present-day applications of stainless steel.

J. P. Angsten, ambassador of good will for Sterling Bolt Company for 25 years, was the guest of honor at a company dinner recently when he received the plaudits of the management for "faithful service, well done."

Pump manufacturers name 1950 as "National Water Systems Year"

A twelve-month aggressive sales and merchandising program for electric water systems in 1950 was the plan decided upon by the mid-year committee meeting of the National Association of Domestic and Farm Pump Manufacturers in Davenport, Iowa, on July 28.

The decision to make 1950 a "National Water Systems Year" was influenced by the success and excellent response to the National Water Systems Month promotion which the association sponsored during May of this year.



"A willingness to serve the consumer is paramount TREVOR,
YOU HAVE THE WRONG FILM AGAIN!!"



It's HUYCK for skilled masonry--

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* * In the successful, trouble-free operation of an enameling furnace so much depends upon the quality of the masonry and muffle installation. The HUYCK record of over 20 years of skilled masonry service to porcelain enameling plants speaks for itself. So — no matter what your plant masonry requirements may be, furnace or otherwise, HUYCK can do the job quickly . . . efficiently . . . economically.

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Every day more and more manufacturers are discovering that "Sales Appeal" begins with Colors by Vitro. To keep pace with this increased demand for Vitro Colors, it has been necessary to greatly expand all our facilities within the past year-modern production equipment has been installed, a new reference sample system has been established, our plant has been enlarged, new trained personnel has been added to our staff. It all adds up to a better and more complete color service. Why not find out today what Vitro has to offer you! We're at your service-whatever your color requirements.

You can rely on VITRO CERAMIC COLORS

FOR EVERY TYPE JOB-ENAMELING OXIDES AND PREPARED SCREENING COLORS.

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CERAMIC COLOR SPECIALISTS FOR OVER 41 YEARS

Pressed Metal Institute

holds first annual meeting in Cleveland

Woodard Jeschke elected president of stamping industry's national association

PECHNICAL and management personnel of metal stamping companies met in Cleveland, Ohio, July 20, 21 and 22, for the First Annual Meeting of the Pressed Metal Institute, the metal stamping industry's national association. Headquarters of the meeting was at the Hotel Cleveland.

The first day of the meeting was given over to registration in the morning, a trip through the Sheet and Strip Mill of Republic Steel Corporation in the afternoon, and a baseball game in the evening between the Cleveland Indians and the New York Vankees.

Thursday morning, July 21, was devoted to a "working session" on Institute business. Then followed a luncheon at which A. T. Colwell, vice president of Thompson Products, Inc., Cleveland, discussed "Jet Engines and Jet Propulsion" as a market with a great future for the stamping in-

Metal spinning discussed at technical session

At the afternoon technical session, presented by the Toledo District of the Pressed Metal Institute, George Lober, of Superior Spinning and Stamping Co., discussed "Metal Spinning's Place in the Stamping Industry." (Read "Pre-Spun Shapes Facilitate Drop Hammer Forming," by Gilbert C. Close, starting on Page 19.) William P. Von Behren, of Swartzbaugh Manufacturing Co., followed with a talk on "Rectangular Deep Draws in Aluminum." Then Homer Percival, of Acklin Stamping Co., discussed "Recognizing Seniority and Job Preference in a Stamping Shop," and Raymond Peterson, of Peterson Engineering Co., told the stampers "How Schools Can Aid in the Training of Die Engineers."

Election of new officers

Following the presentation of the technical papers, a meeting of the PMI board of directors was held to elect officers for the 1949-1950 season. Woodard G. Jeschke, president of Res Manufacturing Co., Milwaukee, was elected president of the Institute, with Howard Wolf, assistant to the president of Mullins Manufacturing Corp., Salem, Ohio, elected vice president. Joseph J. Boehm, head of Boehm Pressed Steel Co., Cleveland, continues as secretary-

Announcement of the election of officers was made at the PMI annual banquet, Thursday evening, at which a group of ten representatives of the stamping industry of England were guests. (This group toured the United States during July and the first week of August under the auspices of the Economic Cooperation Administration and through the cooperation of the Pressed Metal Institute.)

At the banquet session, Certificates of Merit were presented to four former PMI presidents in recognition of service to the industry. The presentations were made to George Whitlock, president of Mullins Manufacturing Corp.; F. C. Greenhill, president of Acklin Stamping Company, Toledo; Clarence Custer, president of American Stamping Company, Cleveland; and Walter Gorrell, of Philadelphia, who passed his gavel of office to Mr. Jeschke at this meeting.

Elected to the PMI Board of Directors at the annual business session

Ralph B. Britton, vice president, The Stanley Works, New Britain, Conn.; R. Stanley Works, New Britain, Conn.; R. L. Batteiger, president, Coatesville Plate Washer Co., Philadelphia; W. J. Primrose, president, Dickey-Grabler Co., Cleveland; James M. Leake, president, Leake Stamping Company, Monroe, Mich.; Glendon H. Roberts, president, Detroit Stamping Company, Detroit; Sam Morrison, vice president, Morrison Steel Products, Buffalo, N.Y.
C. C. Caditz, president, Northern Metal Products Co., Chicago; R. S. Wagner, vice president, E. R. Wagner Mfg. Co., Milwau-

At head table at luncheon honoring productivity team from Britain are, left to right: R. D. Chapman, die designer, Vauxhall Motors, England; Woodard G. Jeschke, newly elected PMI president; James M. Phillips, productivity team leader, managing director, Motor Panels, Ltd., England; Major Edward Hobbs, British Counsel in Cleveland; Wallace Ardussi, toastmaster, chairman of Cleveland District of PMI, Variety Machine & Stamping Co.; Burnham Finney, American Machinist; A. W. Menzies, senior superintendent, Armstrong Whitworth Aircraft, Ltd., England; Orrin B. Werntz, PMI managing director; Cyril A. Mawson, press operator and die setter, Pressed Steel Co., Ltd., England; and Stephen R. MacRae, representing ECA.



kee; Thomas J. Turk, president, Indiana Pressed Steel Co., Muncie; T. L. Baker, vice president, National Stamping Co., Detroit; William Von Behren, vice president, Swartzbaugh Mfg. Co., Toledo.

R. K. Follansbee, vice president, Sheet Metal Specialty Division, Follansbee Steel Co., Pittsburgh; Harvey S. Johnson, vice president, Metal Specialty Co., Cincinnati; Owen H. Wenning, sales manager, Worcester Pressed Steel Co., Worcester, Mass.; John F. Herkenhoff, president, Minster Machine Co., Minster, Ohio; Oren H. Persons, sales manager, Edgcomb Steel Co., Philadelphia; and Raymond Peterson, president, Peterson Engineering Co., Toledo.

The theme of Friday morning's

The theme of Friday morning's session was "Where We Stand Today-a review and preview." Speakers at this session and their subjects were Oliver F. Fancey, Washington representative of the Pressed Metal Institute, "Plans, Programs, Budgets and Buying"; Eugene Schwartz, PMI labor relations consultant, "Let's Face Facts-and Talk Them"; and Robert Weaver, Jr., member of Small Business Advisory Committee to the Secretary of Commerce, and president of Bettinger Enameling Co., Waltham, Mass., "Small Business Wins Its Spurs."

Recommendations for upward trend in productivity

A major event of the Pressed Metal Institute's first convention was the Friday luncheon at which Burnham Finney, editor of American



Vice President Wolf

Machinist delivered the key address on "Where We Stand Today."

Mr. Finney presented a four-point program designed to bring about the upward trend in productivity per worker which prevailed before the war. The speaker stated that "higher productivity is the sole key to a continuation of high wages and the lowering of prices to the consumer." His recommendations are as follows:

- (1) Congress should enact legislation permitting and encouraging industry to write off for tax purposes new production equipment much faster than the rules now allow.
- (2) A program of education should be launched among the workers of America to make them realize that it is to their advantage to operate at full capacity the new machines put at their disposal instead of refusing to run them at more than part of their rated capacity.
- (3) American manufacturers with well-defined long-range plans involving capital expenditures should proceed immediately to carry them out instead of holding them up and thereby encouraging a watchful-waiting policy.
- (4) Our superiority over other countries in horsepower per worker -it is seven in the United States against three in England-should be maintained by industry's spending money to save money. That is, investment in cost-cutting mechanical equipment should be speeded up.

Noting that a "surprisingly large percentage" of our machine tools are more than 20 years old, the speaker added:

"Only a small portion of industry's equipment today consists of machines which are of postwar design and hence are from one-third to double the productivity capacity of the machines built during and before World War II. By contrast, Russia, intent on rebuilding its industries, has already developed a machine tool and press building industry of sizable proportions, the entire output of which is going into the construction of new metalworking facilities in the Soviet Union. Moreover, Russia is taking for her industries almost the entire production of German machine tool and press builders located in the Russian zone of Germany."

In contrast to the American situation, Finney stated that European industry has made substantial progress in its recovery and rehabilitation program. Last year, industrial production rose one-sixth from the 1947 level (Russia excluded). Eastern European countries within the Russian sphere of influence made about as much progress as the western European nations.

"Production in western Germany increased from 40 per cent of the prewar level to 64 per cent," Finney continued. "A group of both eastern



President Jeschke

and western European countries, excluding Germany, attained a production of 18 per cent more than the 1940 level during 1948. Labor productivity rose and unemployment was low. And production in Soviet Russia rose sharply last year, having been one-fourth greater than in the preceding year and 18 per cent greater than in 1940."

Overseas visitors

Preceding Finney's talk, several members of the British productivity team discussed their "three-weeksold views of the United States." Among the plants visited in Cleveland by the overseas team, which consisted of press operators, tool designers and die makers, were the Fisher Body Division of General Motors Corporation, the American Stamping Company, and Dickey-Grabler Company. In the area they also visited the Mullins Manufacturing Corp. Plant in Salem, and the Willys Overland and Acklin Stamping plants in Toledo. The team toured the country under the leadership of James M. Phillips, managing director of Motor Panels, Ltd., of Coventry, England.

Revitalized "Lo-Hi" pH

A two-stage cleaning process using a "Lo" pH bath as the first step and a "Hi" pH bath as the second (no intervening rinse) provides an improved, revitalized "Lo-Hi" pH process of cleaning, prior to vitreous enameling . . . The "Lo" pH bath combines two products in water at a pH of approximately 8.5. Designed for the removal of vegetable and animal compositions it will also remove free surface rust, activate the surface, soften scale and welded sections . . . The "Hi" pH bath involves the use of a single product at a pH of approximately 12. It removes mineral oils, activates the surface and rinses freely . . . The use of this process guarantees clean ware regardless of soil, insures complete and uniform pickling, does away with re-pickling . . . Have the NORTHWEST man in your territory tell you how to restore pre-war control, or write to us direct . . .





* HAND BOLLED GRINDING BALLS

Made from specially developed vitreous porcelain body and hand rolled for faster, uniform grinding. Mill tested and individually inspected before shipment to you.

. MILL LINING BRICK

Low in glass content, McDanel Mill Lining Brick gives maximum resistance to wear and long, satisfactory service. Complete size range to fit every

* MILL HEAD ASSEMBLIES

Be sure to specify McDanel Mill Head Assemblies on your new mills. No metal can contaminate your mill charge with these patented covers. They are tops for uniformity of batch and long service.

. METAL COVERED GRINDING JARS AND MILLS

Protected with heavy gage steel jacket McDanel Metal Covered Grinding Jars and Mills are easy to handle, easy to clean, discharge rapidly and stand up under long usage.

> MAKERS OF THE Original HAND-ROLLED GRINDING BALL

Nothing's sacred anymore—not even high school geometry. We remember "Q.E.D." (Quod Erat Demonstrandum) being at the end of every problem to mean that the problem had been satisfactorily solved.

We're suggesting a new type Q.E.D. as the solution to your porcelain products problems. The Quality, Economy and Dependability of McDanel industrial porcelains has been proved year after year in hundreds of plants. Every McDanel Product is mill-tested and individually inspected before shipment. Q.E.D.: Use McDanel Porcelain Products.

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McDANEL REFRACTORY PORCELAIN CO.
BEAVER FALLS, PENNA.

Chicago Vitreous Enamel Product Company

Exclusive Representative for the Enameling Industry

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NEWS

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Florehte's stuthern for hidle bidmeling

Int the general reversions "Marshall" factory of Tennelsets. Florence St. plants a configlett new can hoof long by 1101 stille. Absording to contparting new buluples with the configurations.

Cribben & Sexton sales up

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Cribben & Sexton Co., Chicago, manufacturers of Universal gas ranges, has reported that sales for June this year are 34 per cent greater than the sales for June, 1948. Wendell C. Davis, president, said that dealer inventories of older models are practically exhausted. This has resulted in an unusually heavy dealer demand for current ranges.

Youngstown to provide for heavier coils of sheets

The Youngstown Sheet and Tube Company will spend approximately \$4,500,000 on its blooming mill at its Campbell Works to roll wider slabs for heavier coils of sheets for the automobile industry.

In announcing the plans, Frank Purnell, president, stated "The present limit of slab width is 43½ inches while the new range will be up to 56 inches. The installation means changes in the drives, tables, shears, manipulators and to numerous other facilities."

Buckley elected chairman of board at Philco

James T. Buckley, president of Philco Corporation from 1939 to 1943, has been elected chairman of the firm's board of directors to succeed the late John Ballantyne. William Balderston, president, will continue to serve in that capacity as the chief executive officer of Philco.

Buckley joined Philco in 1912 and has spent his entire business career

with the firm. Recently, as chairman of the executive committee, he devoted his time to the over-all policies of the company as it has expanded in the appliance field.

Smith new Norge president; other executive changes



George P. F. Smith, a Borg-Warner vice president, has been elected to succeed Howard E. Blood as president and general manager of the Norge Division of Borg-Warner Corporation. Smith had been serving as assistant to G. A. Shallberg, Borg-Warner executive vice president in Chicago. Mr. Blood has been elevated to the position of chairman of the board of Norge, at the same time retaining his post as president of Detroit Gear Division.

John A. Underwood, of New York, fills a new position in the Norge organization, that of vice president in charge of sales. H. L. (Red) Clary remains with Norge as director of sales.

Smith joined Borg-Warner in September, 1938, as general manager of the Marbon Division, in Gary, Indiana, and later was made assistant to Shallberg. Underwood joined Norge after long experience as an executive and merchandiser. At one time he had charge of Great Western Stores and their plant which manufactured gas ranges. He directed Montgomery Ward's gas stove division for some eight years, was president of Manning, Bowman & Co., and president of Johnson & Johnson's personal products division for about five years.

McKinley to Hooker-Detrex

H. D. McKinley, formerly manager of the solvents division of Detrex Corporation, has been appointed works manager of a new degreasing-solvent manufacturing plant being erected by Hooker-Detrex, Inc., at Ashtabula, Ohio.

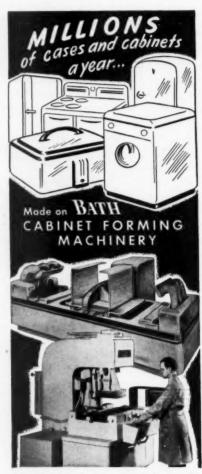
Walters to direct marketing activities at Hotpoint

Fred J. Walters, for the past two years vice president of industrial relations for Hotpoint, Inc., has assumed the responsibilities for the direction of marketing activities of the company, James J. Nance, Hotpoint president, has announced.

Walters announced the consolidation of the firm's entire field organization under Edward R. Taylor as sales manager. Taylor joined the Hotpoint organization in 1946 as merchandising manager. Since he has served as manager of market development, and more recently as western sales manager.

DuPont building \$2,000,000 laboratory for finishing materials research

Construction work has begun in Philadelphia on the Marshall Laboratory of DuPont Company, named in honor of John Marshall, director of the chemical division of the fabrics and finishes department. Scheduled to be completed late in 1950 at a cost of \$2,000,000, the new four-story building will replace laboratory fa-



BATH machines have completely revolutionized cabinet forming by eliminating costly conventional manufacturing methods. A single cycle of operations forms outer shell in one piece. No wrinkling—no costly hand finishing—lower unit production costs for you. Available for modest or large production, fully or semi-automatic. Ideal for forming cabinets, shrouds, cases, boxes, bases and liners for:

REFRIGERATORS SPACE HEATERS
WASHING MACHINES UNIT HEATERS
VENDING MACHINES RADIOS
ELECTRIC CONTROLS TV SETS
KITCHEN CABINETS IRONERS
ELECTRIC ROASTERS STOVES, etc.

Send blueprints and advise production requirements—or write for catalog.



METAL FORMING EQUIPMENT

cilities now located in three different buildings on the grounds at the Du-Pont finishes plant in Philadelphia.

The Marshall Laboratory will provide facilities for 80 technical employees working on research in finishing materials. Laboratory assistants, clerical and maintenance employees will bring the total staff up to about 185 persons.

Albert Kellner to tour Europe

Albert Kellner, director of export sales for Pemco Corporation, has departed by boat for Belgium which is the first stop on an extensive tour of plants in Europe. He plans to be gone approximately four months and before returning to the United States will visit Sweden, Norway, Denmark, Holland, Belgium, France, Switzerland, Italy, Israel, Egypt, and Greece.

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While on the trip, Kellner will be an authorized representative of the "Port of Baltimore" under the auspices of the Export-Import Bureau of The Baltimore Association of Com-

Armco constructing new \$12,000,000 steel plant

Immediate construction of a new \$12,000,000 steel making plant which can produce 400,000 tons of steel ingots per year has been authorized by the board of directors of Armco Steel Corporation, Charles R. Hook, chairman, announced recently. It is being built just south of Armco's East Works plant in Middletown, Ohio.

This new steel plant will include three 225-ton open hearth furnaces of the latest design. When it starts operation, the plant will provide employment for more than 500 additional men.

"Our engineering department has been working on plans for almost a year and these new open hearths are the first unit in what we hope will eventually be a much larger plant," Hook said. "Further expansion, however, will depend upon economic conditions in the future. We are proceeding with this major expansion at this time because there has been a constant growth in steel consumption in the area served by our Middletown plant . . ."

Quick facts on the new plant:

The building which will house the open hearth furnaces is 200 feet by 700 feet.

Almost 5 miles of railroad tracks will be constructed, and about a mile and a half of truck roads.

50,000 cubic yards of earth must be excavated for building foundations.

12,000 cubic yards of concrete will be required in the foundations. 7000 tons of structural steel will be needed to erect the main building, not including steel used in the fur-

The three big open hearth furnaces will require 10,000,000 gallons of fuel oil per year to melt the steel.

George D. Wells, Jr., of Topeka, Kansas, has been appointed factory sales representative in Kansas and Western Missouri for Caloric Stove Corporation, according to Julius Klein, vice president and director of sales. Wells is the son of George Wells, Sr., new business manager of The Gas Service Company at Topeka.

Cliff Clay with Kaiser-Fleetwings

Wilfred "Cliff" Clay recently accepted the position of general foreman of the enamel department at Kaiser Fleetwings, Inc., Bristol, Pa. Together with Bill Fitzpatrick, enamel superintendent, Clay lined up the enamel laboratory and production materials and equipment for the August 1st operating deadline.

Prior to joining Fleetwings, he was assistant control engineer in charge of process control and the mill room, on the second shift, at the Murray Corporation, Scranton, and before that he was ceramic engineer in charge of development and maintenance of control process for Roberts and Mander Corporation, Hatboro, Pa.

Clay's initial job following his

graduation from Alfred University in 1943 was with the Enameled Metals Section of the National Bureau of Standards. The assignment at the Bureau involved the development of special frit and coatings for various types of military equipment in an attempt to lengthen its life in service.

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Gas sales gain in June

Total sales of gas by utilities to ultimate customers in June were 2,315,868,000 therms, an increase of 3.2 per cent over sales in June, 1948, according to an American Gas Association report. For the twelve months ended June 30, 1949, total sales of gas amounted to 34,178,423,000 therms, a gain of 9.5 per cent compared with 31,211,694,000 therms, sold in the comparable period a year earlier. The Association's index of gas sales for June 30, 1949, was 221.0 per cent of the 1935-1939 average.

Two new low priced refrigerators produced by Philco

Two new refrigerators with "price appeal, size appeal and value appeal" for today's market have been introduced by Philco Corporation and are now available at all Philco dealers, according to W. Paul Jones, vice president - refrigeration division.

A seven cubic foot model, the 792 priced at \$199.50, offers 20 per cent more refrigeration space and fits in the floor area of a four cubic foot refrigerator. The model 795 has "zerozone", full width home freezer, completely adjustable shelves and summer-winter control of humidity. It has 7.6 cubic foot capacity with 14.9 cubic feet of shelf area.

New shipping container for jet engines; a tough packaging problem

A rubber-cushioned steel shipping shell that will protect jet aircraft engines from damage during shipment was announced by Raymond C. Firestone, vice president, The Firestone Tire & Rubber Co.

The airtight steel container is pressurized to protect the engine from damaging effects of humid air. It is



cradled on rubber air springs which are designed to absorb practically all shipping shocks by floating the engine on an air cushion. Each cylindrical container is made in two sections which encase the jet engine. After the engine is bolted into the container, the unit is sealed, pressurized and mounted on skids with a specially designed rubber air spring suspension system.

The PEI commercial research committee at work



finishfoto

This photo shows some of the members of the Commercial Research Committee of the Porcelain Enamel Institute at a recent meeting in Cleveland, Ohio.

Left to right are: Ralph W. Baker, Republic Steel Corporation; Karl B. Thews and R. E. Mullady, both of Titanium Alloy Mfg. Division of National Lead Company; Floyd C. Woleslagle, Carnegie-Illinois Steel Corporation; Edward Mackasek, Porcelain Enamel Institute; Herbert Turk, Pemco Corporation; John Oliver, Porcelain Enamel Institute; F. W. Darner, U.S. Phosporic Products Division, Tennessee Corporation; and Don S. Beal, Youngstown Sheet & Tube Co.

Members of the Committee not shown in the photo are J. T. Anderson, Armco Steel Corporation; Klare M. Gibbs, Ferro Enamel Corporation; J. T. Hewlett, Ingram-Richardson Mfg. Co., of Indiana, Inc.; J. F. Ingram, Ingram-Richardson Mfg. Co. (Penn.); H. McChesney, The Erie Enameling Co.; and J. W. Vicary, Ervite Corporation.

Careful investigation of the potentialities of new fields through market research is recognized as the only sound approach to market promotion. The PEI Commercial Research Committee is composed of men skilled in investigating marketing conditions. Surveys have been made among various groups to determine user or consumer preference for porcelain enamel. Upon the return of the industry

to peace-time markets, the Committee prepared a comprehensive survey entitled "Preview of Future Markets for Porcelain Enamel Products," which received widespread acclaim as an outstanding example of trade association research effort.

Appointments at Tinnerman

Four major appointments at Tinnerman Products, Inc. have been announced by George A. Tinnerman, Formerly executive to the general manager, Overstreet has been associated with Tinnerman since 1941.



W. H. Taylor



R. A. Hartman

vice president of the firm which makes "speed nut" fasteners.

Robert C. Overstreet was named secretary; W. H. Taylor, assistant to the vice president; L. H. Flora, chief engineer; and R. A. Hartman, manager of field engineering. In addition, Flora and Hartman were appointed to the firm's executive committee.



L. H. Flora

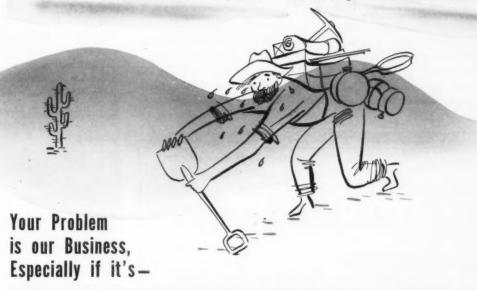


R. C. Overstreet

Taylor, who was named director of engineering a year ago, joined the firm in 1945. He will assist in coordinating the work of all departments.

As chief engineer, Flora will direct all phases of product development and research engineering. He has been with the firm for seven years. Hart-

LET US HELP YOU WITH THAT LOAD, PARDNER!



FUNCTIONAL MACHINED BRASS CASTINGS (Valves, Fittings)

Maybe you have a problem!

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Maybe it's the design or the production source of a brass casting—a casting, let's say, that's to be functional and will need to be machined. Yours may be a standard article or possibly may be a special item calling for depth and breadth of knowledge in casting brass. It may be a valve or a fitting that needs the attention that only half a century of experience will satisfy.

There, Pardner, is where we come in! There's where we can really take a load off your shoulders. Rely not only on our long experience

and straight-line reputation in working in brass, but place your confidence in our expanded Research and Development department whose business it is to tackle the difficult problems and come up with the right answers for you and for us. Rely, too, on our sales engineering representatives to be at your doorstep in a jiffy to advise on a problem—this without cost or obligation, of course.

Your problem is our business—make it your business to bring your brass casting problems to us. We have succeeded in pleasing many customers over many years, and very likely we may have something to offer you.

DETROIT BRASS & MALLEABLE WORKS

100 SOUTH CAMPBELL AVENUE DETROIT 9, MICHIGAN



OUR SERVICE TO OTHERS is the best indication of what we can do for you. Some of the industries for which "Detroit Brass" has produced functional machined-brass castings in volume and variety—always on the same top-quality level:

Agricultural «Aircraft «Automotive «Beverage «Cooking » Diesel Engine » Dry Cleaning «Farm Machinery « Gas » Gas Heating Equipment » Locomotive » Maritime » Milking Machine Equipment » Oil Refining Equipment «Oil Heating Equipment »Plumbing «Refrigeration » Rubber » Spray Equipment » Washing Machine » and others.

man joined Tinnerman 10 years ago. Formerly chief product engineer, he

will handle special technical service for customers.

What is industrial statesmanship?

It is a supervisor, foreman, executive, administrator who:

- 1. Manages his organization with skill and at a profit while maintaining a high degree of morale and satisfying those served.
- 2. Delegates responsibility and authority to lower echelons of manage-

ment so as to develop executive caliber and stature.

- Works in a way that creates understanding and cooperation rather than friction.
- Understands our economic and social system, its motivations, its vitality, its historical development, its

comparative benefits over other systems.

- 5. Carries a deep conviction that ours is the system that affirms the individual, that capitalizes on incentive, that thrives on individual character and productiveness.
- 6. Knows why and how our system can and must give the greatest job-satisfaction, be an outlet for the great human desire to create something to be useful.
- By a definite program of action, works ceaselessly to get everyone within his realm of influence to understand and believe the same truths.
- 8. Provides for individual attention to the problems and developments of people on his payroll.
- Recognizes responsibility for the effect of his decisions and practices upon individuals and the community.

This is the answer given by Lawrence A. Appley, president of the American Management Association.

Sampson heads furnace division



The appointment of Benjamin S. Sampson as manager of its fast growing Industrial Furnace & Oven Division has been announced by Claud S. Gordon Company, Chicago. The division will handle the firm's expanded national sales, engineering and service activities on industrial furnaces and ovens. Sampson formerly was district sales manager of Stewart Furnace Division of Sunbeam Corporation.

GOOD HINGED CRATES SAVE TIME AND MONEY



Tight Corner Hinged Crate

Yes-good hinged crates do save

time and money. They save time in product packaging through rapid assembly. They save mon-

ey too in storage space, but most

important of all they save money

by getting the product to its final

destination free of damage.

Kraft Crate

and ease of assembly not found in ordinary crates. Even the nail holes are pre-drilled for speedy assembly.

Our Kraft Hinged Crate for completely closed packaging has only three sections — top, bottom and collapsible mat. And it is reinforced with both horizontal and vertical wood cleats.

For stoves, ranges, heaters, refrigerators, washers, ironers for appliances and household products— use Bigelow-Garvey crates for speed, economy and safe shipment.

Bigelow-Garvey crates are good crates, for they are properly designed for your particular product, and (built of the finest packaging materials) accurately manufactured in all details.

Our Tight Corner Hinged Crate offers rigidity, strength, lightness

Your shipping problems are our problem. Write us fully.

BIGELOW-GARVEY LUMBER CO.

General Office and Laboratory

320 West Huron Street • Chicago 10, III.

Mills • Arkansas • Georgia • Wisconsin • Minnesota • Washington

Fenity to Horizons Inc.

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Horizons Incorporated, of Cleveland, Ohio, has announced the addition of Robert D. Fenity to its ceramics department. Fenity was born in Patterson, Ill., and is a graduate of White Hall High School and the University of Illinois. He will serve on the laboratory staff as a research ceramist.

O. Hommel Co. appointment



The O. Hommel Company has announced the appointment of Edward H. Rollfs to the eastern sales and service district of the company's frit division. Rollfs' college training was at Virginia Polytechnic Institute where he received a B.S. in Ceramic Engineering, majoring in porcelain enamels. He was graduated in 1940.

He worked for Florence Stove Company as an on-the-job trainee and then served with USAAF as a mechanical engineer at Ford's River Rouge plant. Before joining the Hommel organization, he was production manager of Hanson Porcelain Enamel Co. He is a member of the ACS, the Institute of Ceramic Engineers, and the Eastern District Enamelers Club.

Water heater service manual revised and enlarged

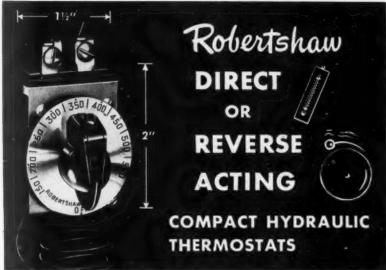
In recognition of the substantial progress made in the design of gas water heaters and their controls since 1938, a completely revised and greatly expanded third edition of the "Gas Appliance Service Water Heater Manual" has been completed by the American Gas Association. Containing valuable suggestions for properly installing and servicing gas water heaters, the manual is a handy reference for training purposes and for use by servicemen in the field.

New Kelvinator quality engineer

Appointment of Lawrence C. Whitsit as quality engineer of Kelvinator Division of Nash-Kelvinator Corporation, was announced by R. A. De-Vlieg, vice president - manufacturing.

Whitsit will coordinate the product quality activities of the manufacturing, engineering and service departments of the division. He will supervise this work at Kelvinator plants in Detroit and Grand Rapids, where the firm builds electric refrigerators, ranges, home freezers, ice cream cabinets, beverage coolers and other appliances.

Whitsit, who has been assistant



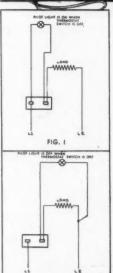


FIG. 2

This compact, powerful, accurate, dependable, slow make-and-break electrical thermostat serves a multitude of needs.

MODEL B-10 DIRECT ACTING TYPE

Breaks the circuit on the rise of temperature, is particularly suitable for dishwashers, sterilizers, steam tables, water heaters, warming tables, scalding tanks, etc.

MODEL B-20 REVERSE ACTING TYPE

Makes the circuit on a rise of temperature. It is particularly useful for warning lights or signals on over-temperature for such things as fire signals, signal overheating, motor generators, etc.

Write for full information.

In home and industry, EVERYTHING'S UNDER CONTROL

Robertshaw

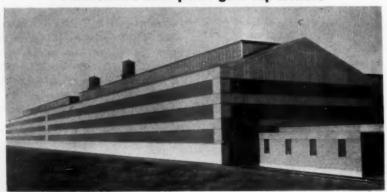


finish SEPTEMBER . 1949

chief inspector, joined Kelvinator's inspection staff at Detroit 16 years ago. He was graduated from the Uni-

versity of Michigan in 1933 with an M.S. in Engineering.

Perfection's new plant gets top honors



The newly-expanded Ivanhoe Road plant of Perfection Stove Company, Cleveland, Ohio, has been awarded a bronze plaque by the Cleveland Chamber of Commerce as the "best factory building completed in Greater Cleveland during 1948."

Awards for outstanding buildings have been made annually by the Cleveland Chamber of Commerce, except during World War II years, since 1916. Selection of the buildings is made by a jury of architects, artists, engineers and the county building commissioner.

This is the second award given Perfection's Ivanhoe Road plant. At the Third International Lighting Exposition in Chicago, March 29 through April 1, the company received a gold seal award (see May, 1949 finish, page 70) for the excellence of its press building lighting. A merit award was also given for outdoor lighting at the plant.

duction is ahead of operations for the like period of 1948. The firm specializes in both aluminum and brass products from smelter to finished product. The largest automatic screw machine products operator of multiple machines west of the Mississippi, the company's screw machine production is also far ahead of the like period in 1948.

The company reports that over

The company reports that over 50% of the aluminum ingot produced in the United States today is produced in the Pacific Coast area.

The company's products are used in the production of aircraft, food equipment processing and storage materials, architectural specialties, plumbing supplies, industrial machinery, and precision instruments.

Expansion of distribution on a national basis for the company's aluminum division has just been completed, stated Harvey.

U. of I. ceramic graduates announce plans

The twenty-two June graduates of the Department of Ceramic Engineering, University of Illinois, have announced their plans. Nineteen are now associated with various industries and research laboratories while two plan to continue with graduate work and one is in business for him-

The graduates and their company connections are:

Richard N. Ames, Carnegie-Illinois Steel Corp.; Robert G. Bender, Kimble Division, Owens-Illinois Glass Co.; Charles C. Curtis, Jr., Owens-Corning Fiberglas Co.; Roger L. Fellows III, Lustron Corp.; Robert D. Fenity, Horizons Inc.; Charles L. Fillmore, National Bureau of Standards; Lynn E. Fussell, Harbison Walker Refractories Co.; John E. Griffin, Jr., Seeger Refrigerator Co.; Charles E. Janke, Chicago Retort and Firebrick Co.; Herman R. Klockner, Shenango Pottery Co.

Ralph G. Kraft, National Bureau of Standards; Chun Lee, Lustron Corp.; Wesley C. Lueking, North American Refractories Co.; Don P. McAdoo, Pemco Corporation; Donald D. Rassner, Shenango Pottery

Production ahead of 1948 for West Coast aluminum extrusion producer

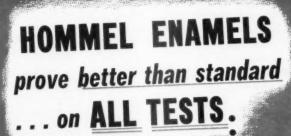


Photo shows what is said to be largest screw machine operation of multiple machines west of the Mississippi River.

Lawrence Harvey, executive vice president of Harvey Machines Co., Inc., said to be the largest indepen-

dent manufacturers of aluminum extruded products, has announced that the firm's aluminum extrusion pro-

SEPTEMBER . 1949 finish







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Bond Test-**Ground Coat**

Hommel's ground coat enamels display superior adherence over a wide firing range when sub-jected to the standard bond test.



Scratch Hardness Test—Cover Coat

Under the gram inch test, Hommel enamel plates show unusual resistance. Hommel's enamels are outstanding on surface protection.



Thermal Shock Test -Cover Coat

Hommel's Tite-Wite (for kitchenware, stove tops, refrigerators) is not affected by extreme thermal shock. Tite-Wite success-fully stands the test of repeated high tempera-ture heatings followed by cold water submersions.



Acid Resistance Test—Cover Coat

Hommel acid resistant frit and Tite-Wite pass the PEI Class AA test. No indication of any stain from the acid.



Cold Test-Cover Coat

Repeated freezing and thawing tests to simulate cold wall refrigeration conditions produce no spalling failure on Hom-mel refrigerator enamels.



Reflectance—Color -Cover Coat

Hommel's enamels have superior reflectance and color qualifications. Constant laboratory research tests insure maximum opacity and color stability.



URGH 30, PA Pacific Coast Agen

. H. BUTCHER CO

· FRIT for Steel, Cast Iron or Pottery

- · CERAMIC COLORS
- CHEMICALS
- BRONZE POWDERS
- METAL POWDERS
- SUPPLIES
- EQUIPMENT

Our Technical Staff and Samples are available to you without obligation. Let us help you with your problems

World's Most Complete Coranic Supplier

-> from Page 68

Co.; Norman K. Russell, Norton Company; Albert H. Siska, Frigidaire Division, General Motors Corp.; John W. Thiemann, Champion Porcelain Co.; and Neil F. Walker, General Refractories Co.

Gerald Lutz is in business for himself, while Robert S. Degenkolb and Harlan P. Tripp, who accepted a Graduate College Fellowship, plan to continue with graduate study in ceramic engineering. Six advances degrees were awarded to ceramic engineers at the University's June commencement exercises.

W. W. Coffeen, B.S. '35 and M.S. '37, now with Metal & Thermit Corporation, was granted the Professional Ceramic Engineering degree.

William A. Graff received the Ph.D. degree and has joined General Electric's Glass Technology Laboratory in Cleveland.

James H. Healy, who received an

M.S. degree, will continue toward his Ph.D. on a Graduate College Fellowship.

wil

sub

Louis R. McCreight received an M.S. degree and is continuing as a full time Special Research Associate on the Air Force Project.

Harold G. Sowman received an M.S. and is continuing for his Ph.D. degree on a fellowship of the Titanium Alloy Mfg. Division of National Lead Company.

Andrew Yen received a Ph.D., but has not announced his plans.

Robert Weaver heads Council on World Affairs

Robert A. Weaver, chairman of the board of Ferro Enamel Corporation, is the new president of the Council on World Affairs. He was elected to the post at a recent Council meeting in Cleveland, Ohio, following his return from a six-week trip abroad where he visited Ferro plants in England, Holland and France.

Brownfield heads architectural sales for Erie Enameling

The Erie Enameling Company, through Mark van der Kloet, manager of the architectural division, has announced the appointment of Richard W. Brownfield as sales manager of that division.

Brownfield has been associated with Erie for the past five years as sales manager of the industrial division. He will also continue his duties in that capacity, it was stated.

Republic Steel executive named discussion leader at employeremployee relations conference

E. S. Bowerfind, director of public relations, Republic Steel Corp., Cleveland, has been named one of ten conference leaders at the 7th annual Employer-Employee Relations Conference to be held October 17 to 20, at Desert Inn, Palm Springs, California.

The announcement was made by H. C. McClellan, president of Merchants and Manufacturers Association (Los Angeles), sponsors of the con-

WEYERHAEUSER CRATES



SHOCK TESTED TO PROVE STRENGTH

● Crates designed by Weyerhaeuser are built to withstand the impact and vibration tests recommended by the Porcelain Enamel Institute. These tests simulate shocks received in shipment—to prove adequate protection for contents, the first essential in good crating.

Weyerhaeuser Crates are engineered to give needed product protection—economically. Their open design permits easy inspection. Diagonal bracing is 65% stronger

than strut bracing. Corners are nailed for maximum strength and rigidity. To lower assembly costs, and to eliminate costly pre-drilling for nailing, the pieces that receive nails are of soft non-splitting hardwood.

In 18 years of designing and building, Weyerhaeuser has supplied leading stove manufacturers with superior, engineered crates. Your inquiry will receive prompt and experienced attention.

WEYERHAEUSER SALES COMPANY

Room 2134 • 400 West Madison, Chicago, III.



ference. It was stated that Bowerfind will lead group discussions on the subject of "Community Gold Mine."

Rozene heads new Century Vit customer service department



Announcement comes from Century Vitreous Enamel Company, Chicago, that F. W. (Ferd) Rozene, formerly in charge of porcelain enameling at the Harvey (Ill.) plant of American Stove Company, has joined the organization to head a new customer service department.

Rozene will be active in both sales and service work, it is stated, and for the customer service department brought with him several key men from the American Stove porcelain enameling plant.

New president of Yale & Towne

Gilbert W. Chapman was elected president of The Yale & Towne Mfg. Co. at a recent meeting of the board of directors, it was announced by Joseph A. Horne, chairman. Chapman, who has been serving as vice president in charge of finance, succeeds Calvert Carey as the sixth president of the 80-year-old lock and materials handling equipment company. Carey resigned recently because of ill health.

Farm implement dealers distributing Lustron Homes

The Lustron Home now is being distributed by farm implement dealers, according to W. A. Matheson, the company's general sales manager.

He says it was only a matter of time before Lustron entered the farm market with its porcelain enamel steel home because of the farm implement manufacturing background of seven of the company's top men, including Carl G. Strandlund, president, and Joe Tucker, senior vice president.

Carnegie-III. advances Humphrey

Appointment of John W. Humphrey as general superintendent of the Youngstown district operations of Carnegie-Illinois Steel Corporation has been announced by this United States Steel subsidiary. He succeeds L. S. Dahl who was elected vice president in charge of operations of the corporation's West Coast subsidiary, Columbia Steel Co.

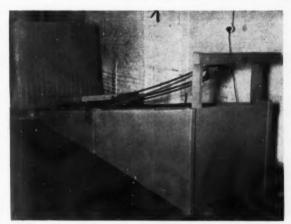
Humphrey had been assistant general superintendent in the Youngstown district since December, 1945. In his new position, he will supervise operations of the firm's Ohio

to Page 73 ->

FOR BETTER PACKAGING - -

use a recognized

Container & Materials Testing Laboratory



The Conbur incline testing device for subjecting containers and packaged products to controlled impacts.

Thir drop test equipment will take packages up to 100 lbs.

Our laboratory has complete facilities for testing all types of shipping containers and materials.

The Don L. Quinn name is recognized by carriers and shippers alike as an accepted source for authoritative information on packaging and shipping problems.

Over twenty-five years of specialized experience. Our services are available to you.



A Certified Testing Laboratory
Of The National Safe Transit Program

THE DON L. QUINN COMPANY

224 West Kinzie Avenue

Chicago 10, Illinois

Phone: SUperior 7-9749

Why finish advertising is 17.5% ahead of 1948 GAIN

The accompanying chart shows the continuous growth of finish advertising in dollars and cents over a 5-year period. The peak year 1948 showed a gain of over 50%. Now, at the end of the first 8 months of 1949 finish advertising sales show a 17.5% gain over the first 8 months of the peak year, 1948. This in contrast to the fact that many industrial trade publications are currently running less advertising than in 1948.

One big reason for this gain in finish advertising is the fact that more and more advertisers of materials, equipment, products and components are learning that finish is the only industrial trade publication which completely blankets their most valuable market the manufacturers of major appliances and allied metal products. Not only does finish go to each manufacturer, but individual copies go to key personnel from top management through purchasing, design engineering, to works manager and foremen. No other publication can make this statement. Here's a complete market rolled up and handed to you through the circulation of a single trade publication -finish. That's one reason why you see the old advertisers continue in finish, and new advertisers appear each month.

If you sell the major appliance and allied metal products field, finish should be Number One on your trade paper advertising list.



Percentage increases in dollars are, in each instance, over the preceding year.

360 NORTH MICHIGAN AVENUE . CHICAGO 1 . ILLINOIS TELEPHONE CEntral 6-1229

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1948

15%

GAIN 1947

32%

GAIN

1946

GAIN

1945

Progress report on SAFE TRANSIT program

→ from Page 23

tification by the National Safe Transit Committee. Certification requires that the manufacturer actually have the pre-shipment testing equipment in his plant and pre-test in accordance with the approved standards or meet these requirements through the facilities of testing laboratories which are certified by the Safe Transit Com-

The label is expected to serve two purposes. PACKAGED PRODUCTS bearing the Safe Transit Label will give notice to all handlers that the shipment should arrive undamaged unless given excessive abuse. This is expected automatically to improve handling conditions. The second result of the label will be to notify the dealer and final customer that the manufacturer has done the best that shipping science provides to insure safe delivery of this merchandise.

Certification of manufacturers to use the Safe Transit Label is just beginning as time is required to install necessary testing equipment to comply with the requirements. Independent laboratories are also being certified but some delay is being experienced for the same reason. Advance declarations of intent indicate that most of the nation's largest appliance and utensil manufacturers and most progressive laboratories are equipping to participate in the program.

NEWS

-> from Page 71

Works at Youngstown and of Mc-Donald Works at McDonald, Ohio.

"Court of Flame" program enters final round

Nearly 7,500 salesmen are swinging into the second half of the Gas Appliance Manufacturers Association "Court of Flame" year-long automatic gas water heater sales campaign, according to J. F. Donnelly, chairman of the sales promotion committee of GAMA's gas water heater division. Goal of the drive, which ends December 31, is sale of 1,000,-000 heaters.

According to a report made by the committee, the sale of "Court of Flame" tags, each representing an automatic gas water heater, totalled 429,014 as of June 23. Prizes are awarded on the basis of returned tags representing sales.

National home laundry conference in New York City, Sept. 14-15

The Third National Home Laundry Conference will be held at the Commodore Hotel, in New York City, September 14 and 15, it has been announced. The Conference is being held under the auspices of the American Home Laundry Manufacturers Association, formerly known as the American Washer and Ironer Manufacturers Association.

Subjects to be discussed will include washers, dryers, ironers, supplies (soaps, detergents, bleaches, softeners, bluing, etc.), water heating, textiles, education and engineering. A feature of the two-day meeting will be the first public showing and demonstration of AHLMA's "yardstick" comparator washer.

Announce nominations for AGA officers to be elected at annual meeting in Chicago, Oct. 17-20

Thirty-three gas industry executives have been nominated for top positions in the American Gas Association for 1949-1950. Nominations for Association officers, directors, section officers will be placed before the membership for election at the AGA annual convention in Chicago, October 17-20.

Among the top nominations are: Hugh H. Cuthrell, vice president, The Brooklyn Union Gas Co., Brooklyn, N. Y., for president; D. A. Hulcy, president, Lone Start Gas Co., Dallas, Texas, for 1st vice president; George F. Mitchell, president, The Peoples



ever invite HIM to!"

Gas Light & Coke Co., Chicago, for 2nd vice president; and Edward F. Barrett, president, Long Island Lighting Co., Mineola, N. Y., for treasurer.

The "Gas Has Got It" slogan has been selected as the theme of this year's convention.

District Enamelers Meeting

Eastern Enamelers annual outing, Saturday, September 17, at Woods Club, Trexlertown, Pa. Golfing, swimming, clam bake, and entertainment.

NESA directors hold annual mid-year meeting

Officers, directors and various committee chairmen of the National Electric Sign Association met in Atlanta, Ga., July 11, for their annual midyear business meeting to hear reports of committee activities and to chart the future course of the Association.

A morning session was devoted to committee reports, including the 1950 convention committee; labor relations committee; legislative and code committee; maintenance, educational, promotional, membership, and packaging and shipping committees.

Principal discussion at an after-

noon session centered around membership activities, field service and the financial aspects involved. Coupled with these activities, the subject of the Sign Manual project was discussed at considerable length.

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Goodyear promotes sign maintenance



Shown above is one of a series of alerts on the importance of maintenance of signs which is appearing in the Goodyear Triangle, sales or-

ganization publication of The Goodyear Tire & Rubber Company.

In an article entitled "Dirty Faces Don't Sell," it was stated that "This



Look What You Can Make with MISCO

METAL

Send for— Stock List of Misco Rolled Mill Forms available for fabrications like this.



ODRIN



Is it the removal of:

- · oils or greases?
- pigmented drawing
- carbon smuts?
- · lime scale or mill scale?

Or is it preparation for:

porcelain enameling?

· welding?

soldering flux?

tarnish or rust?

rust preventives?

When these things bother you, remember that there is no charge for Oakite advisory service on any metal-cleaning job. Just write to Oakite Products, Inc., 17 Thames St., New York 6, N. Y.



Goodyear eight-foot standard electric sign is getting a good scrubbing behind the ears. Most dealers keep their display windows clean so that people can see in the store and be favorably impressed. Possibly because it takes more trouble, signs do not get as much cleaning attention. Yet, they are employed by dealers for the purpose of converting street traffic into store traffic. . . . Field representatives are urged to cast a critical eye on their dealers' signs and recommend maintenance."

Plumbing and heating industries bureau annual meeting, October 4

The annual meeting of the Plumbing and Heating Industries Bureau will be held at the Palmer House, Chicago, October 4, it has been announced by E. J. Gossett, president of the Bureau. Reports on the activities of the Bureau, the national public relations agency for the industries, will be presented, and directors and officers will be elected.

Tinnerman building new plant

Tinnerman Products, Inc., manufacturers of "speed nut" fasteners, will build an ultra-modern new plant in Cleveland, Ohio, according to George A. Tinnerman, vice president. Construction on the new plant, to cost approximately \$1,500,000, is to start at once and completion is expected by June, 1950.

Oil shale mining demonstration scheduled for September

A public demonstration run will be made in the experimental oil shale mine near Rifle, Colorado, from September 7 through October 4, according to an announcement by James Boyd, director of the Bureau of Mines.

Escorted mine inspection tours to be conducted on September 20 and 21 will include a stop at the Oil-Shale Demonstration Plant where the gas-flow shale retort and the new experimental refinery will be in operation, Boyd said. The 200-barrel-a-day refinery is a highly flexible unit that will produce gasoline, Diesel fuel,

PEI Forum

Porcelain enamelers are reminded of the 11th annual Porcelain Enamel Institute Forum for plant men to be held at The Ohio State University, Columbus, Ohio, September 14, 15 and 16.

heating fuels, and fuel gas. It has facilities for topping, cracking to coke and recycle cracking, sulfuric acid treatment, and rerunning naph-

Florence Stove appointments

Charles O. Slaby has been appointed sales manager of the heater division of Florence Stove Company, it has been announced by C. Fred Lucas, vice president sales. In his new post with headquarters at Gardner, Mass., Slaby will be responsible

to Page 80 ->

IT'S WHAT YOU NEED. WE HAVE NOT WHAT WE HAVE THAT'S IMPORTANT



We don't have to try and sell you what we have, because we have just about everything.

SUPERSTRONG comprises a complete line of wirebound, wooden and corrugated fibre boxes or crates. They are designed and fitted to your product-with no need to try and fit your product to a ready-made box.

The improved design and sturdy materials of all SUPERSTRONG shipping containers give you not only increased protection, but increased economy. Let us tell you all the whys and wherefores.



WIREBOUND BOXES and CRATES
WOODEN BOXES and CRATES
CORRUGATED FIBRE BOXES
BEVERAGE CASES
STARCH TRAYS
PALLETS

RATHBORNE, HAIR AND RIDGWAY COMPANY



What Makes Buzzie write Like th

BUZZIE is just learning to write.

And every line he writes starts out with big, generous letters and ends up with little squeezedup ones.

The trouble, of course, is that he hasn't learned to plan ahead. He concentrates on making those big letters, and lets the end of the line take care of itself.

Many grownups have the same trouble Buzzie has—not with their handwriting, but with their money.

They blow it all at the beginning, when it looks like there's nothing to worry about, and let the "end of the line" take care of itself. But it practically never does.

That's why the Payroll Savings Plan and the Bond-A-Month Plan are such a blessing. They are "human-nature-proof."

For you don't have to keep batting yourself over the head to save money when you're on one of these plans. The saving is done for you—automatically.

And remember, every U.S. Savings Bond you buy brings you \$4 in ten years for every \$3 invested.

So don't let your life run on like Buzzie's handwriting. Fix up the "end of the line" once and for all by signing up today for the Payroll Savings Plan-or, if you are not on a payroll, the Bond-A-Month Plan at your bank.

Automatic Saving is sure saving - U.S. Savings Bonds



Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

Skelnor Process de-enameling

First Commercial Porcelain De-Enameling Installation

Our process will save your valuable parts from the scrap pile.

De-enameled parts come back to your plant clean and ready for the pickle room — no sand blasting or "touch up" necessary.

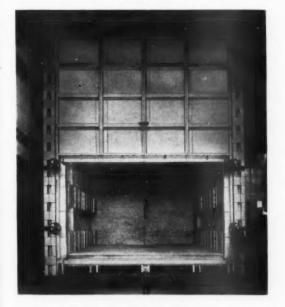
Long experience in serving the largest producers of porcelain enameled products places the Skelnor Process *out-in-front*.

Call us in to see your rejects. We can tell you whether you can save money through deenameling.

SKELNOR METAL PROCESS CO. 3382 Avondale Ave. Chicago 18, III.

Phone COrnelia 7-3130

Bath Iron installs recirculating type furnace



Bath Iron Works, of Bath, Maine, recently installed an oil-fired recirculating type car bottom furnace. Temperature maximum of the unit is 1350° F. Working dimensions are 18' wide by 25' long by 12' high.

finish SEPTEMBER . 1949

FAHRALLOY





BURNING TOOLS for Greatest Ultimate Economy

You get maximum service life and lowest cost per hour-of-service with Fahralloy Burning Tools. Racks, bars and fixtures of Fahralloy grade F-5 (65% nickel, 20% chromium) show practically no weight loss over long periods, and an absolute minimum of warpage and breakage. High nickel content enables them to withstand repeated thermal stresses.

Fahralloy Grade F-1 (35% Ni.—15% Cr.) is available if desired.
Our standard patterns cover most requirements, or we can design ideal tools for your needs.
Send for new 24-page Burning Tool Cat. No. 47.

HE FAHRALLOY COMPANY
15(th & Loomis Sts.
Harvey, III.

Guaranteed Results

in the

Pickle Room

with

Specification Materials

ane

Experienced Service

MANUFACTURERS OF

0

LEPCO PRODUCTS

Suppliers to Porcelain Enameling Plants
CLEANERS • NEUTRALIZERS
DRAWING COMPOUNDS



V. B. PUNDERSON COMPANY

402 SWETLAND BUILDING

CLEVELAND 15, OHIO

Finish characteristics that will sell metal products

(Continued from Page 31)

linen finishes, flame red, sun yellow, seacrest green, and light blue. They made the housewife color conscious. They stole the punch line and helped themselves to a market. This is just another indication that industry production problems and production convenience have often clouded our vision of market possibilities.

Let's get out and tell the housewife that she can get attractive colors in porcelain enamel and that in five years these colors will be the same as they are today. That is something no other finish can claim.

Let's make a concentrated effort to show the architects of this country that commercial buildings are sales tools, and that as such the proper use of color is necessary. Let's prove to them that no other material offers the range of color available in porcelain enamel. And no other finish can match the durability of these colors.

Let's rejuvenate the sign market not only on the basis of durability but also on the basis of permanent color that makes signs sell merchandise. Let's go after wall linings in restaurants, office buildings, industrial buildings and chain stores on the basis that porcelain enamel is the only material that gives durability, sanitation, and sales-building permanent color.

If we do nothing else, for heaven's sake let's convince the housewife that porcelain enamel is something other than a white finish with a black or red trim.

The question of durability

What do we mean by the word "durable?" I don't know what others may mean, but with porcelain enamel it means that, with proper handling, the average household appliance will look in ten years just as it does today—whether it has been wet or dry, whether it has been used as a holder for a hot iron or skillet, or whether the husband has placed a cigarette on it or used it as a coaster for his glass of beverage. No other finish can resist all of the common household treatments.

Of course, I know I said "with proper handling." But why should that make any manufacturer shy away from porcelain enamel and choose a substitute material?

The other day I bought a mirror. But the manufacturer didn't make it out of a sheet of polished stainless steel so that I could throw it out of a truck without breaking it. He made it out of a breakable material—glass, for the simple reason that that material made the best mirror.

But for some reason, and I think it is mostly our own fault, manufacturers of home freezers, refrigerators, kitchen cabinets, food mixers, ice crushers, space heaters, and other types of home appliances, turn to substitute finishes, that have fewer sales advantages, instead of developing a package and handling method that would enable them to economically use porcelain enamel and retain the sales advantages, and the customer good-will that go with it.

The home laundry is coming up to the kitchen and in new homes it is often being financed on a long-time basis. If ever there was a need for a durable, easy-to-clean, colorful, and attractive finish it is needed for the outside casings of washers, ironers, and driers. But as far as I know, only one manufacturer offers even one of these appliances in an all-porcelain finish.

I am not criticising these manufacturers; I am merely pointing out that all who are in the porcelain enamel industry need to do a job of selling the advantages of porcelain enamel.

We need to tear porcelain enamel apart, see what its fundamental characteristics are, and why they make porcelain enamel desirable for various applications. We need to quit taking this finish for granted just because it has been manufactured for 2,000 years. Those who are directly interested in porcelain enamel need to do this because businesses depend on it. And those who make finished products need to do this because in the period that lies ahead there will

be the need for every product sales advantage that can possibly be developed. To turn this planning into profit we must join hands to develop these markets by telling our customers how these advantages benefit them.

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The need for market development

The suppliers need to tell consumers about the advantages of porcelain enamel in order to broaden the markets for this product. The enamelers need to do this in order to fill expanded production facilities. And manufacturers of finished products need to join in this in order to create increased public acceptance of the advantages which porcelain enamel gives to their products.

Because of its basic characteristics, we know that porcelain enamel should be used for many new and old products which are not using it today. And we know that the new developments in both frits and base metal will greatly improve the surface characteristics of porcelain enamel, reduce manufacturing problems, lower the final cost, and make this material applicable for an even wider range of materials.

But we won't be pulled or pushed into the promised land. There are too many other good materials and good finishes. We're going to have to fight our way into these markets and we're already late in starting.

We have in porcelain enamel the best finish available. We have prospects for a great future. But we must realize that adequate market development is a fundamental part of our business planning—if we are to capitalize on this future. And we are going to have to work collectively as well as individually to advance this finish to its proper place in our economy.

As enamelers, as material suppliers, and as product manufacturers, we need collective market development for porcelain enamel to fill our expanded capacity, increase our profit, and help us capitalize to the fullest extent on the advantages of this modern, versatile material.

Adapted for finish from a talk before the Porcelain Enamel Institute Third Sales Management Conference.

Comments from home laundry equipment manufacturers

→ from Page 50

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maker than the dollars needed to purchase a dryer. And the convenience of drying clothes when the homemaker wants to, not when she has to, lightens her work considerably and gives her more free time for other things. It is this combination of time saved and labor eliminated that will move dryers into millions of homes.

Expands home laundry line

A. E. Askerberg, president, Horton Manufacturing Company —

"Horton has recently acquired the entire home laundry equipment division of the F. L. Jacobs Company (automatic washer) and are moving tools, dies and machinery to our factory in Fort Wayne. This makes Horton the most complete home laundry line in the field today and reflects our attitude with regards to the future of home laundry business. We recently also have added the Horton automatic clothes dryer and we consider this a progressive step."

Purchasing in orderly manner

E. F. Voss, Voss Bros. Mfg. Co. -

"We believe that sales are going to improve each month in the future.

"Sales curves that dropped a few months ago, necessitating production cut-backs and reduction in inventories, have reversed themselves during the past few weeks.

"Customers should be advised to anticipate their needs in advance and thereby not only procure their washers on schedule when they are needed, but also take advantage of the present low prices.

"Consumers already know that prices have reached a level that they think are fair, and knowing that costs are now on the increase they are making their purchases in an orderly manner, which will be helpful to all concerned.

"Frankly, we believe that business is on the up-grade at this time."

